



QualityLowInputFood

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**QualityLowInputFood**

**Improving quality and safety and reduction of cost in the  
European organic and 'low input' supply food chains**

**Integrated Project (IP)**

**Food Quality and Safety**

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perceptions in European countries with different supply  
chain structures and current levels of consumer  
participation in organic food**

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CONSUMER ATTITUDES TO  
QUALITY AND SAFETY OF  
ORGANIC AND LOW INPUT FOODS:  
A REVIEW

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# 1 INTRODUCTION

The QualityLowInputFood (QLIF) integrated project has, as its overall objective, improvement of safety, assured quality and reduced cost throughout organic and low input<sup>1</sup> food chains in Europe, increasing value to both consumers and producers. An important contribution to this objective will be made from better understanding of consumers' expectations and attitudes towards these issues. Some relevant aspects of consumer characteristics are to be explored as a primary contribution to the QLIF project, but others have been the subject of more recent research. It is clearly important that the significance of previous studies is taken into account in developing the various strands of QLIF; both to make the anticipated consumer research more focused and coherent, but also to inform and orient the life sciences component of the project.

This report has been produced on the basis of a workshop (held in September 2004) convened to discuss the relevance of consumer research to the wider QLIF project.<sup>2</sup> It has three aims: to report on a survey and analysis of both scientific literature and also recent primary data available to the project team providing insights to consumer attitudes to organic products; to support new empirical investigations of consumer attributes which will be the focus in later stages of Sub-Project 1; and based on the foregoing, to raise issues for broader discussion. There are six further sections following this introduction.

The next section draws on previous Fifth Framework studies and contributions from Sub-Project partners (representing CH, DE, DK, FR, IT and UK<sup>3</sup>) to provide evidence of the emerging understanding of the complexity, interdependence and subjective nature of consumer appreciation of quality and safety of low input foods. Previous studies include OMIaRD<sup>4</sup> (Volume 4 of its report series, Zanolli, 2004, *inter alia*, includes much relevant material); Organic HACCP<sup>5</sup> (Torjusen 2004, which covers specific issues of relevance to QLIF); and DOLPHINS<sup>6</sup> which, though more concerned with the significance of origin and place of production, uncovered a significant profile of low input foods. Supplementing this review, partners have contributed reports on more recent relevant material, following a standard protocol for identification. To keep the briefing document short, sources for the issues described in the literature review are (mostly) not contained within the text, but in an annotated bibliography which appears as Appendix A.

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<sup>1</sup> Here, by "low input" products, we refer to all products which, in the eyes of consumers, appear healthy and natural or have been produced in a way which makes them so, and provide potential market substitutes for organic products.

<sup>2</sup> In terms of Subproject 1, the objective of this part of the Workpackage is to provide an introduction and context for D1.2, a publishable report on consumer perceptions in European countries with different supply chain structures and current levels of participation in organic food.

<sup>3</sup> The partners are: P1, University of Newcastle upon Tyne (UK); P2, Forschungsinstitut für Biologischen Landbau (CH); P3, Danish Research Centre for Organic Farming/Danish Institute of Agricultural Sciences (DK); P5, University of Kassel (DE); P7, University of Wales Aberystwyth (UK); P10, Institut National de la Recherche Agronomique (FR); P23, Università Politecnica delle Marche (IT); and P31, Groupe de Recherche et d'Echanges Technologiques (FR).

<sup>4</sup> Organic Marketing Initiatives and Rural Development.

<sup>5</sup> Hazard Analysis and Critical Control Point.

<sup>6</sup> Development of Origin Labelled Products: Humanity, Innovation and Sustainability.

The third section takes advantage of consumer panel datasets on household expenditures (in DK and UK), supplemented by qualitative data provided by consumer panel members. Using the panel model approach, a distinction can be made between the relative importance of simultaneously occurring changes in prices, information provision, sales channels and other influences, for various different household and product types.

Sections four and five use qualitative data derived from the OMIaRD project to focus in more depth on issues of quality and safety. Focus group material, from interviews held on a consistent basis across eight European countries (AT, CH, DE, DK, FI, FR, IT, UK) is reassessed to identify the relationship between regular and occasional consumer attitudes and their concerns about general food quality and safety, and specific issues for organic and low input foods, including stratification according to the relative levels of knowledge of organic farming standards and practices. Laddering interviews were also held in the same European countries, based on the means-end chain approach of Reynolds and Gutman (1988). These provide more in-depth insights into broadly the same issues.

The sixth section provides a comparison between these empirical reanalyses, developing the context for key organic quality and safety issues through comparison of information on purchasing behaviour, perceptions and attitudes with that of known supply chain structures (market channel and regional origin), levels of consumer participation in organic food and of consumer knowledge about organic farming standards and practices.

The seventh and final section raises issues for discussion, highlighting differences in consumer perceptions and attitudes to the quality and safety of organic food. A range of factors need to be taken centrally into account for the development of understanding of how consumers conceive of quality itself, both in terms of foods generally and those distinguished by organic or low input production systems. Understanding also needs to be improved of the dynamics of the European low input food market, and how quality and safety improvement can affect its progress. Finally, the choice of technical developments, with appropriate cost to advantage basis, will need to be taken into account by parallel social science activity in Subproject 7.

## 2 LITERATURE REVIEW

### 2.1 Background

The overall objective of Workpackage 1.1 is to determine consumer perceptions, expectations and attitudes about the quality and safety of organic and low input foods. The aim of this section is to report on the findings of previous consumer research, to gain some understanding of the differences and similarities which exist between EU countries with respect to expectations and attitudes towards organic or low input food and food production systems, and to identify key issues from recent literature.<sup>7</sup> A further objective is to assess what is already known about consumer attitudes and concerns in order to highlight deficiencies in the level of knowledge, in terms of the quality and safety characteristics of organic food and related parameters affecting buying behaviour.

Literature relating to studies of organic consumption arises from a number of different sources. Firstly, investigations are undertaken by national organic public bodies, stakeholder organisations and academic establishments, including market research and research student's studies. A second source derives from national, government-funded research reports and associated documentation. Thirdly, individual country contributions to EU-wide research projects also contain relevant material. Hence, this review draws on a survey of both formal and grey literature in individual countries, and, in particular, relevant findings from three EU-funded research projects: DOLPHINS, OMIaRD, and Organic HACCP. These key EU projects have been central to the development of organic and low input food studies in Europe and their nature and relevance to QLIF are briefly outlined in the following paragraphs, in chronological order.

Firstly, DOLPHINS (Development of Origin Labelled Products: Humanity, Innovation and Sustainability, 1998-2002) was a Concerted Action project funded under the Fifth Framework Programme's Quality of Life and Management of Living Resources theme. Its objective was to consolidate current knowledge on socio-economic aspects of typical and traditional agri-food products, described as 'origin labelled products' or OLPs. OLPs share some common image characteristics with organic and low input products (small-scale or extensive production systems embodying tradition and the appropriate use of natural resources) and, in some contexts, they are blurred in the minds of consumers; however, overlaps are not common and 'organic OLPs' are a relatively recent extension to exploit a new segment. In DOLPHINS, four research workpackages gathered information on the definition and characteristics of OLPs; OLP supply chains; the link between OLPs and rural development; and the link between OLPs and consumers. The last of these themes is the most relevant to QLIF, through its exploration of consumer perceptions of OLPs and factors influencing preferences and purchasing behaviour.

The EU project OMIaRD (Organic Marketing Initiatives and Rural Development, 2001-2004), financed under the Research and Technological Development Programme of the EU's Fifth Framework, contains the most comprehensive statistics to date on the scope and dimensions of (specifically) the organic market in Europe. Despite the fact that many relevant studies were carried out in Europe prior to

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<sup>7</sup> Unless otherwise specifically indicated as arising from low input production systems, the analysis contained in this (and subsequent) sections refers to organic foods.

OMIARD, no broad, in-depth analysis of the range of consumer attitudes, motivations, expectations, barriers and behavioural intentions towards organic products had been attempted; neither had consumer affective nor cognitive influences been thoroughly investigated either at national or European level. The OMIARD project as a whole was designed to bridge this gap by gaining insights into organic food consumption in Europe, with particular focus on ethical, social and environmental dimensions. The analysis of consumer expectations, attitudes and behaviour contained in Volume 4 of its report series, through its emphasis on product quality, environment and health, distribution channels and regional origin, provides an essential foundation for QLIF.

The review of consumer literature presented in Organic HACCP (European Consumers' Conceptions of Organic Food) is also very relevant to QLIF, in that it focuses specifically on consumer expectations, criteria and concerns with particular regard to the quality and safety of organic foods. Published in 2004, this report is the first to emerge from a longer term EU project (Recommendations for Improved Procedures for Securing Consumer Oriented Food Safety and Quality of Certified Organic Foods from a Consumer Perspective, 2003-2005) financed through the Fifth Framework Programme's Quality of Life and Management of Living Resources theme. The objective of the project is to apply the conventional concept and methods of HACCP<sup>8</sup> to organic production in Europe, and to follow this up with an assessment of the extent to which aspects of the organic market are organised in ways that correspond with consumer concerns. This project, which is very much consumer-focused, takes the first steps towards the development of measures that will secure improvements to the quality and safety of organic foods in the longer term.

## **2.2 Methodological review**

A number of general conclusions regarding the nature and scope of the methodological approaches employed in the study of organic food in consumer research over recent years can be drawn from the EU studies outlined above, their associated literature reviews and other documentation. Relevant studies include those aimed specifically at the organic food sector, revealing perceptions of safety and quality either directly, through an exploration of consumer attitudes, or indirectly, through investigations of overall buying behaviour; studies designed to examine food and quality concerns primarily from the point of view of the food sector as a whole or the environment in general, with questions of organic consumption arising naturally from within this; and finally, there is a third broad category of more conceptual research, based in the social sciences, which considers the space and role of the organic sector in the wider context of, for example, social and cultural change. This distinction between types of study is important, since it reflects basic differences in research questions and intentions, and has a significant bearing on choice of research methodology. The implications of these and related issues are discussed in the following paragraphs.

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<sup>8</sup> Hazard Analysis and Critical Control Points involves seven steps: (i) hazards associated with food production and processing are identified; (ii) critical control points in the processes are found where the potential hazard can be controlled or eliminated; (iii) preventive measures with critical limits are established for each control point; (iv) procedures to monitor the critical control points are put in place; (v) corrective actions are designed for use when monitoring shows that a critical limit has not been met; (vi) verification of testing of procedures; and (vii) recordkeeping to document the entire system.

It is clear from earlier studies that, prior to OMIaRD, most consumer research in the organic sector relied almost exclusively on self-reporting of attitudes and buying behaviour drawn from quantitative surveys. Observation of consumer behaviour at the retail level was almost nonexistent in literature or, if commissioned by supermarkets or other multiple retailers, results had not been made generally available. In addition, although numerous consumer studies had been undertaken across Europe, there was limited pan-European research in the field, and it was difficult to generalise findings from individual countries. The application of different research methodologies according to different target groups, food products or market segments, together with variations in the national or regional scope of studies, meant that wide-ranging, in-depth coverage of consumer perceptions and motivations, or knowledge issues concerning the consumption of organic foods across Europe, did not exist. Furthermore, since for the most part emphasis had been on quantitative research methods, there was limited qualitative empirical investigation of organic consumers. In fact, studies tended to be polarised towards either qualitative or quantitative techniques, with few employing a mixture of the two.

A rough distinction in terms of the choice of theoretical framework is also evident from previous research into the link between consumer attitudes and buying intentions. On the one hand, behavioural approaches drawn from cognitive and social psychology focus on the consumer in terms of, for example, criteria relating to consumer knowledge, product perception or needs to be satisfied. In contrast, food studies in the broader social scientific framework emphasise social, cultural and institutional relationships and are more focused on the meaning of actions rather than the actions themselves. Typically, the former, more consumer-orientated approaches tend to predominate in economics and market research, whilst social geographers and anthropologists often employ the latter perspective, exploring questions of politics, economy, culture and tradition in order to understand consumer attitudes and concerns. Different approaches are not mutually exclusive, however, a point that is emphasised in numerous studies.

Studies have also shown that choice of theoretical framework fundamentally affects the way in which organic foods are conceptualised. Through their emphasis on the influence of thought processes on consumer behaviour, for example, cognitive theories highlight the importance of the provision of product information, the development of consumer trust and, for example, the willingness to pay for organic quality. In this context, consumer perceptions and concerns are heavily influenced by labelling, retailer recommendation or other similar product information and, in the absence of actual quality guarantees, organic foods are conceptualised as 'credence' goods.<sup>9</sup> Following on naturally from this, it becomes appropriate to assess the relative importance of individual characteristics or credence factors (such as, for example, health-related aspects) to the whole product mix or 'bundle of attributes' using theories of consumer preference and other quantitative techniques.

From the social science perspective, however, questions of consumer behaviour and attitudes towards organic food tend to be more conceptual, and draw on different types of theory. For example, the choice of organic may be seen as a form of symbolic communication in the cultural, traditional or heritage context, or as a

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<sup>9</sup> Product quality characteristics are conventionally grouped into three categories: 'search' characteristics, those which the buyer can judge by evaluating the product prior to purchase; experience characteristics, those which can only be judged after using the product; and credence characteristics, which cannot be judged even after purchase and use, but depend on faith in the product and process itself.

dimension of child care, in relation to the perceived role of such products in healthy eating. In such cases, questions of consumer choice extend far beyond what is seen or perceived in terms of the physical bundle of attributes, to an interpretation of the role and significance of organic foods in well-being and lifestyle. In the post-modern context, for example, organic consumption is often described as exemplifying the desire to 'return to nature', to re-establish rural roots in a fragmented, post-industrialised world. Similarly, other studies have focused particularly on theories of cultural capital, and on the way in which social and cultural learning processes can influence the competencies and knowledge associated with the consumption of organic foods. In empirical consumer studies, however, these symbolic dimensions have rarely been the subject of investigation, although analysis of literature suggests that they are important, and that they vary considerably. The use of qualitative methodology to gain deeper insight into these and related questions of cognition has been highlighted as particularly appropriate in recent literature.

Typically, quantitative research approaches focus on representative sampling techniques, random selection, survey methods of data collection and hypothesis testing. In general terms, the objective is to determine the prevailing circumstances in a given population from an examination of sample observations; to generalise from the data collected and to validate the results of the exercise using statistical methodology. In consumer studies (longitudinal and ad hoc studies; panel surveys and so on), information concerning buying behaviour or variations in attitudes towards a particular product or product attribute, for example, might be correlated with income or age criteria in order to establish and describe the pattern of consumer purchases or preferences in the larger population, target group or market segment. Existing literature illustrates the diversity of styles and techniques that have been developed in order to achieve this, including a range of multivariate and multi-criteria exercises, such as factor, cluster and discriminant analyses, rough set theory and conjoint analysis.

Unlike quantitative analyses which tend to have their roots in the natural and social sciences, qualitative techniques have generally arisen from and been associated with research in the humanities. They aim to achieve a better understanding of the interaction of motives behind specific actions or practices, and thus to identify the mechanisms which result in a particular set of outcomes. Typically, in the context of consumer research, qualitative approaches explore the deeper meanings behind cognitive responses, in terms of, for example, aspects of the cultural, social or environmental context in which they occur, and they enable the real driving forces behind consumer attitudes or behaviour to be identified and explained. This is not achieved through the generalisation and standardisation of data, but rather through the interpretation of focus group discussions or transcripts from face-to-face, in-depth interviews (normally semi-structured) with respondents, and the application of, for example, laddering techniques and means-end chain analysis. Consequently, the emphasis is on the need for engagement and on the reliability of subjective assessment.

### **2.3 Perceptions of organic food**

It is evident from the above that different research approaches have generated a correspondingly diverse range of considerations with regard to identifying the quality and safety characteristics of organic food. Although key issues to emerge from literature are discussed in more detail in Section 7, in the following paragraphs we

outline some of the most significant aspects of the relationship between consumers and their perceptions of organic quality.

In broad terms, when organic foods are purchased, it follows that they are perceived by the consumer to be of superior quality, simply because the known criteria for organic production (whether or not this is guaranteed) – such as the use of natural raw materials, welfare-orientated animal husbandry, and environmentally-friendly land use and processing techniques – are regarded highly by the purchaser. From the point of view of the organic consumer, 'organic' implies 'quality' in itself, and support for organic agriculture and 'safe' food-processing techniques. The use of wholesome, unadulterated ingredients contributes not only to the individual good, in terms of healthy eating, but also to broader social and environmental goals, which benefit the community as a whole through fundamentally sustainable and 'caring' production methods. The increasing relevance of these quality attributes when buying food has signalled the emergence of a discerning, 'pro-social' and 'pro-ecological' consumer: one who responds to the continuing depletion and pollution of natural resources and, more recently, to food scares and their potential consequences for human health, through their choice of an 'organic quality' way of life. Because of this complexity, then, it is possible to distinguish at least two different, but related aspects of quality in the organic sense from existing literature.

The first concerns the sensory and organoleptic attributes of organic food products. These are experienced directly by consumers; however, they are still not easy to evaluate or measure. Organoleptic qualities include visual appearance, such as size, colour and form, and sensory attributes, such as taste, smell and 'feel'; they can be judged in terms of predetermined standards, both by the sector as a whole and by individual consumers, and can be ranked or graded accordingly, in the same way as is the case for conventional food products. This subset of physical characteristics can also be regarded as 'effect' qualities, in the sense that they are the inevitable physical outcome of organic production processes. Other studies emphasise their hedonic dimension, in terms of experienced pleasure and enjoyment, or convenience-related features related to buying, storing and eating the product.

In the organic context, however, the significance of these physical attributes may be relatively peripheral since, in the absence of certification, there is no guarantee that food has been produced organically just because it smells good or tastes different. A recurring concern in studies has been that consumers are unable to assess the organic quality of food simply by looking at it. Consequently, organic quality must be assured by the application of credible industry standards, including strict organic labelling. From the consumers' point of view, such certification is crucially important to their perception, not only of quality but also of the safety of organic foods. It is also essential if consumers are to develop trust in the quality of unseen or 'extrinsic' credence characteristics.

In existing literature, these extrinsic attributes incorporate a wide range of symbolic, imagined and other less tangible characteristics, many of which are focused on the perception of organic quality as a symbol of sustainable agriculture and healthy living. Such perception is interwoven with confidence in production processes (process-related quality), and in the particular use of safe or natural raw materials (health-related quality). These dimensions of quality are not readily experienced by the consumer and are described as credence characteristics in literature: they are underpinned by trust in predetermined organic criteria and other information. Since these characteristics represent the source of organic quality, they are also

recognised as 'cause' attributes in some studies. However, there is some indication in existing literature that a positive attitude towards these qualities is also encouraged by lack of faith in the conventional food sector rather than by pro-active support for organic methods or low input farming.

Given this diversity of attributes, organic foods have been said to exist in both the rational and emotional spheres, and it is in this latter context that we find the most intangible aspects of quality perception in relation to consumer preferences. Although of critical importance to consumers, many of these aspects are extremely difficult to evaluate and are highlighted as such in research studies. They are bounded by highly subjective and often relatively vague, consumer attitudes towards lifestyle and *raison d'être*, including less explicit needs and wishes relating to a range of beliefs and principles in the socio-economic and environmental context. Organic food is perceived by many as having benefits associated with a combination of interrelated values focused around health, safety and environmental soundness; as 'pure' or natural food, free from artificial additives, fertilisers, pesticides and growth hormones; as low input products arising from small producers and "not intensive production"; and as food produced without the use of genetically modified technology. Ethical issues related to organic food quality include aspects of environmental conservation and fair trade; workers rights; environmental and social impacts in third world producer countries; equity among those involved in the food chain or who are affected by the use of natural resources; and issues of animal welfare, including natural rearing and humane slaughtering. There are also positive associations with the home country, and links with origin-labelling and regional imagery.

It is also worth mentioning here that, for some organic consumers, the 'feel good' factors normally associated with buying organic are linked to other rather less attractive virtues, such as the desire to achieve exclusivity or (conversely) to 'keep up with the Jones'. Equally, where would-be purchasers have no wish to be identified with the typical protagonists of alternative, more wholesome lifestyles (such as 'hippies', for example), it has also been reported that organic quality is associated with 'feel bad' factors in some markets.

For many consumers, however, organic purchases exemplify a preference for cleaner, safer, more virtuous lifestyles, through which individuals are able to achieve improved health and happiness, at the same time as contributing responsibly and thoughtfully to community, economy and the natural environment. Organic quality reflects a particular philosophical attitude towards life, as well as aspirations for the future: a sensible and conscious route to 'nirvana' for the diversity of people, animals and plants. One of the principal conclusions to be drawn from this review of relevant studies is that consumer perceptions of the quality and safety characteristics of organic food are both complex and interconnected; consequently, existing studies highlight a range of conceptual problems, as well as deficiencies in knowledge. The variation of research techniques and styles of investigation which have been employed in order to address these questions is also striking, and has, inevitably, shaped both the nature of the results obtained and the conclusions drawn.

Whilst the issues and problems of researching organic consumers' attitudes as a special case of the quality and safety low input foods are highlighted in summary in this section, readers' attention is drawn again to the rather more complex detail of the studies on which it is based. Further details of these, with annotation as appropriate, can be found in Appendix A of this report.

### 3 SUMMARY OF DARCOF PANEL DATA REANALYSIS

#### 3.1 Introduction

This section summarises main results from the Danish DARCOF project (2001-2004). The project focused on the organic market in two selected countries: Denmark and Great Britain. These countries were at the time especially interesting in the European context, since Britain then had the most rapidly growing market, while Denmark had the highest consumption of organic food per capita in Europe (Morgan and Murdoch 2000; Hamm *et al.* 2002). Here, we concentrate particularly on market features and the importance of sales channels, information provision and valued product attributes.

The study distinguishes itself by being based on household level observations of stated as well as registered behaviour of a number of organic as well as conventional foods, which makes possible a detailed and informative approach. Data are described in Appendix B.<sup>10</sup> As data on observed market behaviour have not been available in any country until recently, almost no studies have been published hitherto, concerning the estimated demand for organic foods, based on actual purchases.

#### 3.2 The Danish and British organic food markets

In the British market, the average household organic budget share has expanded rapidly, especially between 2001 and 2002 during which it increased from 2.4% to 2.8% – in 2003, the budget share stagnated at the 2.8% level. Non-users<sup>11</sup> and light users accounted for almost equally large shares at the beginning of the observation period, but in 2003, non-users had increased their share to 45% (of all households in the panel), while light users decreased their share to 38% (of all households in the panel). Around 13% of households are medium users, while around 4.5% are heavy users – and both groups (in particular medium users) have increased their share of all households during the observation period.

Danish organic budget shares are generally much higher than those of the British – on average 60% higher. The average Danish organic budget share increased continuously until 1999, after which it fluctuated for a couple of years and then settled back at the 1998 level. In 2001, almost every other Danish household (48%) was a light user and 28% were medium users. Only 10% never purchased organic foods, and 14% had a very high consumption (heavy users). The share of non-users decreased continuously during 1997-2001, alongside a corresponding rise in the number of medium and heavy users.

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<sup>10</sup> For British households we have access to purchase data for the five highest selling organic products (during 2001-2003). For Danish households, we have access to information on the whole consumer basket (during 1997-2001).

<sup>11</sup> We divide consumers into four groups according to organic budget share (where the organic budget share is defined as the ratio of household budget spent on organic and total foods), with additional information on differences across buyer groups. We define heavy users as consumers having an organic budget share (all food types) higher than 10%, medium users as consumers holding an organic budget share between 2.5% and 10%, light users as consumers displaying an organic budget share lower than 2.5%, and finally non-users as consumers not purchasing organic goods at all. A further distinction is between buyers (heavy and medium users) and non buyers (light and non-users).

Table 1 presents organic sales across the highest selling product types and across user types: the left hand side of the table shows British estimates, and Danish estimates are shown on the right, with data from the latest available year for each country. The first column (in each case) shows average organic budget share by product type, the second column shows share of total organic sales by product type and, finally, the remaining columns show organic budget share by user types.

The most important organic product groups in Great Britain are vegetables and fruit, which together constitute more than half of total organic sales. The most important groups in Denmark are milk and cereals, accounting for almost half of total organic consumption. Table 1 reveals interesting differences across user types and product types. For British households, the highest average budget share is observed for eggs (5.8%), with heavy users having an organic budget share of 48% for this product. For Danish households, highest budget share is observed for milk (on average 27.5%), where heavy users have a budget share of 85%. Note that light and medium users spend approximately the same average organic budget share in both countries (all products, bottom row). However, British heavy users display a considerably higher average organic budget share than their Danish counterparts. This is, however, partly due to the fact that the British purchase data cover the five highest selling organic products, while the Danish data cover the whole consumer basket.

**Table 1 Average organic budget shares by user and product types c(%), Britain and Denmark**

	<i>Great Britain</i>			<i>Denmark</i>						
	Average organic budget Share	Share of total organic sales	Organic budget shares by user types			Average organic budget Share	Share of total organic Sales	Organic budget shares by user types		
			Light user	Medium User	Heavy user			Light user	Medium user	Heavy User
Fruit	2.2	24	0.8	3.6	18.8	2.9	5	0.5	1.6	12.4
Vegetables	3.0	38	1.0	4.5	27.3	6.7	11	1.5	5.5	24.0
Eggs	5.8	9	1.4	13.5	47.8	22.1	8	6.4	34.7	60.5
Milk**	1.6	13	0.3	2.2	27.8	27.5	34	4.9	45.4	85.0
Yoghurt	4.7	16	1.2	12.1	38.2	4.8	2	0.8	3.6	24.8
Bread and cereals						5.6	12	1.8	7.9	18.5
Other dairy products						3.4	7	0.7	3.1	16.3
Meat						1.9	6	0.1	1.0	13.2
Other foods						1.4	13	0.3	1.3	6.8
Total	2.8	100*	0.9	4.9	26.7	4.4	100	0.9	5.2	18.1

Source: Own calculations based on GfK purchase data 2001 and TNS purchase data July 2002 to July 2003

Notes: \* 100% refers to the five products in at data set only, not the total organic consumer basket.

\*\* Retail milk only.

Further analysis (not shown in Table 1) reveals that in Britain, organic milk is primarily purchased by heavy users, while in Denmark, organic milk is a product purchased by all types of users. This is partly reflected in the fact that the average price premium for organic milk is considerably higher in Britain than in Denmark. Generally, heavy users are willing to pay higher absolute prices for organic as well as conventional goods and, furthermore, higher price premiums in comparison with medium and light users. For fruit, vegetables, eggs, and yoghurt, British medium and light users are responsible for between 39% (vegetables) and 48% (yoghurt) of total organic consumption. The highest British price premiums for organic products are

observed for eggs, vegetables and milk; the lowest are observed for fruit and yoghurt. British light users are generally responsible for a higher share of total consumption than Danish light users, and this especially holds true for fruit and vegetables.

In Denmark, the highest premiums are observed for organic fruit – a product group purchased primarily by heavy users. In contrast, medium and light users contribute altogether more than half of total organic consumption of milk, eggs, bread and vegetables in Denmark. Although they have lower average organic budget shares when compared with heavy users, they constitute a large overall fraction of all consumers and so contribute greatly to total consumption. Conversely, organic fruit, vegetables, yoghurt and other dairy products and meat are primarily purchased by Danish heavy users.

### **3.3 Dynamics in consumption**

Underlying headline trends, considerable differences across product and user types can be observed. In Denmark, the reduction in overall organic share during 1999 was primarily due to decreasing demand for organic meat, bread and cereal products, plus dairy products such as butter, yoghurt and cheese. In contrast, the consumption of organic milk and coffee increased, while demand for organic eggs, fruit and vegetables remained rather stable during the period. In Great Britain, the organic budget share increased continuously for all products: highest growth rates were observed for organic milk, eggs, and yoghurt (in that order), while there was lower relative growth in the consumption of organic fruit and vegetables.

Changes in the consumption of various organic products can be broken down by changes in the behaviour of specific user groups. The distribution of user groups has developed as described previously in Section 3.2. Average organic budget shares have been mostly stable within each user group during the whole observation period in Denmark. For Great Britain, average organic budget shares increased within each user group. This holds especially for heavy users, where the budget share increased from 23.4% to 25.3% during 2001-2003.

However, very interestingly, each group does not consist of the same families during the period: a significant number of families move from one group to another. Thus, for Great Britain, purchase data tell us that one fourth of those who were heavy users in 2001 have become medium users, 7% have become light users and, most surprisingly, one fifth became non-users. However, the turnover of heavy users to include new members means that its share of all consumers has modestly increased and, furthermore, the group experienced increasing overall average organic budget share, as mentioned above. Correspondingly, around one fifth of those who were non-users in 2001 had become light, medium or heavy users by 2003. Considerable movement can also be observed in the other two groups.

Turning to the Danish households, our estimates reveal that around one third of those who were heavy users in 1997 had turned into medium users by 2001, and even (although to a lesser extent) light users. Essentially, these households that left the heavy user group were responsible for a considerable part of the decrease in organic demand during 1999. However, continuous turnover, incorporating new heavy users, means that the group experienced a stable overall average organic budget share between 1997 and 2001.

Similarly, Danish households who were non-users in 1997 have increased their demand for organic foods considerably. Accordingly, more than half of these households had already become light or even medium users by 1999, although between 1999 and 2001 such major shifts did not occur. In addition, the households who were light or medium users in 1997 increased their demand for organic products continuously up to 1999, such that a significant fraction became new heavy users. But again, new households were introduced into the light and medium groups, so that average organic budget share has remained rather stable in these categories.

Thus, a large share of the households in each user group move from one group to another: generally, most households have increased their propensity to buy organic foods during the period, but a considerable number of movements have also gone in the other direction. The results suggest that values and concerns may be temporary and consumers may engage in food issues in an erratic way.

### **3.4 Sales channels**

In Great Britain, as in Denmark, most organic foods are sold through conventional retail stores. Moreover, organic sales are concentrated within a few large multiples. According to our purchase data set, three multiples (Tesco, Sainsbury and Waitrose) are responsible for 70% of the total organic sales in Great Britain. In Denmark, two multiples (Coop Denmark and Dansk Supermarked) are responsible for 64% of total organic sales. Our purchase data show that 95% of British organic foods are sold in supermarkets.<sup>12</sup> In Denmark, on average 58% of all organic products are sold primarily in supermarkets. Very interestingly (and in an international context exceptionally), the second most important sales channel is discounters, selling 25% of all organic products. Finally, 15% are purchased through direct sales (at the farm gate, markets, etc) or specialist stores (for example, bakers, butchers, greengrocers, health stores). The remaining 2% are purchased in other sales channels such as kiosks, petrol stations, small general stores, and miscellaneous outlets. For Denmark, considerable differences can be observed across product types: some products are solely or almost entirely sold in supermarkets (including discounters) – this holds for milk and yoghurt, and most cereals. In contrast, eggs, bread, vegetables, fruits and in particular various types of meat are, to a large extent, sold through direct sales channels and specialist shops.<sup>13</sup>

For Danish consumers, our survey results indicate that a considerable fraction of respondents state that their confidence becomes stronger when a food product is bought at a specialist store, at the farm gate, at a market or delivered directly from the producer – but so do a substantial proportion of consumers when the product is bought in the supermarket. Our results also suggest that for the majority of those consumers who do most of their shopping in supermarkets (particularly light and

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<sup>12</sup> Note that the estimated share of supermarkets sales is much higher than estimates from other sources. In Hamm *et al.* (2002) this estimate is 79%. Direct sales/specialists shops sales may be underestimated in the TNS purchase data. One possible explanation is that panel members record items purchased from every shopping trip using a barcode laser scanner, which may not be available for items purchased at, for example, markets.

<sup>13</sup> Looking at differences across user types reveals interesting differences for Danish households. Heavy users exhibit the highest propensity to purchase organic through direct sales, doing 12% of their shopping this way – in fact, 77% of organic goods sold directly are purchased by heavy users. However, heavy users do most (57%) of their shopping in supermarkets and 20% in discount stores. Medium users and light users spend around two thirds of their organic budget in supermarkets and around one third in discount stores.

medium users), the concentrated sales and distribution structure have not reduced consumer trust drastically in the past.

### 3.5 Perception and valuation of organic attributes

In the Danish survey, we found that (besides basic food attributes such as freshness and taste) being free from medicine- and pesticide-residues are generally ranked as most important food product attribute (for conventional as well as organic foods). Of subsequent importance were low fat content, animal welfare and environmental considerations, and origin. These were then followed by attributes such as nutritional value (vitamins and minerals), brand, ease of preparation, being delivered from specific farms, markets or processors, and being organic (in that order).<sup>14</sup> By and large, the same attributes ranking is found in Weatherell *et al.* (2003) suggesting that British and Danish consumers are comparable.

In the following analysis, we distinguish between private and public goods. *Private goods* can only be consumed by one household (for example, an organic potato can only be eaten once, in one household). In contrast, *public goods* can be shared, and the utility of the consumption in any one household is independent of (and not excluding) consumption in other households. Second, consumers actually purchasing organic foods (buyers) may have *use values*, such as utility from taste, health and freshness, that is, *private good attributes*, which can only be enjoyed by actually consuming (eating) the product. In this study, *non-use values* are *public good values* related to improved environment and/or animal welfare.

In the Danish survey, we identify stated valued organic good attributes. Quite remarkably, most respondents state that improved animal welfare and environmental protection are the two most important features of organic production. Health attributes<sup>15</sup> are third most important, while taste and freshness are ranked as the least important. Aggregating all organic attributes into either private good attributes (health, taste, freshness) or public good attributes (animal welfare, environmental attributes) yields interesting results: non-use values are assigned around twice as much weight (importance) on the Likert scale than are use values. This result holds across product types, as well as for organic goods in general. 82% of all Danish households assign public good attributes to organic goods. Of these, 80% (66% of all households) hold both types of values (private as well as public), while households having private good values only constitute a negligible share (1%). Finally, households acknowledging no organic goods' values whatsoever constitute 16% of all households.<sup>16</sup>

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<sup>14</sup> A large number of significant differences in stated values, concerns and perceptions between organic buyers and non-buyers are observable. For reasons of brevity, these results are not reported in this paper.

<sup>15</sup> Most respondents who perceive organic products as healthier believe this is because of the absence of pesticide and medicine residues. Other (minor) reasons are absence of synthetic additives, colouring agents and GMO application. Least emphasis is given to the possibility of organic products having fewer bacteria or having a higher vitamin and mineral content. Thus, the health attribute appears to be primarily related to the product being free from pesticide and medicine residues (and consequently expected to be healthier).

<sup>16</sup> Results from Brennan and Kuri (2002) suggest that a similar pattern can be observed in Great Britain. According to their survey, around two thirds of the respondents believe that organic farming is better for the environment, while only 55% believe that organic food is healthier. Much fewer (around 20%) perceive that taste and appearance of organic foods are better – significantly more among buyers, though.

Before jumping to the conclusion that people primarily purchase organic foods because of environmental and animal welfare concerns, it may be useful to do some additional analyses. To find out what stated values mean for actual behaviour in the real market, we combine information on stated values for organic goods (revealed from the questionnaire surveying Danish panel members) with actual purchase behaviour (revealed from the purchase data set for Danish panel members). Three different modelling approaches,<sup>17</sup> each using individual household's stated importance (from a 5-point Likert scale) of various private and public good attributes for organic goods, are used to explain the household's average organic budget share for all food types.

The results reveal that stated private good attributes alone have a significant effect on the organic budget share; very interestingly, the contribution from stated public good attributes values is not significant. The effect from private good values is significant even when controlling for various household characteristics, health risk concern and main stated purchasing barriers. We find that lack of trust in control, lack of interest in organic goods (that is, the feeling there are many other things to spend money on), (stated) lack of knowledge about organic goods, and lack of trust in any health effect from eating organic goods (due to the existence of many other risk factors in every day life), are all factors significantly reducing organic shares. Concern about the health risk of eating foods with pesticide residues increases organic budget share significantly.<sup>18</sup>

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<sup>17</sup> Almost identical results are found when using all three modelling approaches. The first approach is regression modelling. More specifically, the model explains average weekly organic budget share for each household during 1997-2001, using stated values, a variable measuring health risk perception in relation to pesticide residues and stated purchasing barriers as explanatory variables. Barriers are introduced to measure the importance of lack of trust and lack of interest: some consumers, assigning values to organic product attributes, may at the same time be unresponsive and uninterested when it comes to actual shopping behaviour, because they are not really committed, or because they do not, after all, really trust organic goods. Finally, we control for the effect of household characteristics, such as income (approximated by total food expenditure), geography, age of the oldest person in the household, presence and age of children, and the education level of most educated person in the household. In the study, we also apply Logit modelling, where we estimate the probability of being in a specific buyer group using the same explanatory variables. The main results are also confirmed when using a third modelling approach, taking full account of the effects of differences in relative prices: in this approach, we apply a micro-econometric demand model explaining organic budget shares, where each household's deviation from the average demand for organic foods is estimated as a household specific constant term. These constant terms are, in principle, capturing all differences due to variations in e.g. socio-economic characteristics, attitudes and values across households and are ultimately explained by the variables mentioned above.

<sup>18</sup> Quite interestingly, repeating the regression analysis for specific product groups reveals that these effects from stated values and concerns are similar across product types. Some important exceptions are observable, however: acknowledgement of non-use values, in fact, significantly increases propensity to purchase one product group, organic cereals and bread. Moreover, for this food type, concern about pesticide residues does not significantly influence propensity to buy. Finally, in contrast to all other organic product types, propensity to purchase organic dairy goods does not significantly increase with age.

Consequently, at least for Danish households<sup>19</sup>, we can conclude that even though households more often assign value to (and additionally assign highest values to) the public good attributes, it is the valued *private good attributes* that make them buy organic foods. Fewer consumers acknowledge private good attributes (compared to public), but those who do, have the highest propensity to purchase organic food. It is worth noticing, however, that the public good attributes are in fact widely recognised and valued. Consequently, assigning values to the public good attributes may work as a necessary (but not sufficient) precondition for buying – in this case, purchasing organic food is possible. However, assigning values to *private good attributes* appear to be a necessary *and* sufficient condition, determining *to what degree* consumers purchase organic foods.

### 3.6 Socio-demographic factors

Previous research has identified a number of socio-economic and demographic variables which significantly influence demand, or willingness to pay for, organic goods. However, almost all of these studies apply stated (not observed) behaviour. In the following, we examine to what extent these findings can be supported using Danish and British data for observed behaviour.

Using various econometric modelling analyses (see footnote 17) on Danish purchase data, we find that higher disposable household income, age and education level all significantly increase organic budget share. Location significantly influences organic shares too. Household organic shares are higher in urban areas, especially in the capital area – lowest shares are observed in western rural areas.

For British households, a similar pattern can be observed for most of the socio-demographic characteristics. Households in the metropolitan (London) area have significantly higher organic budget shares, and the highest in whole of Britain. Significantly higher shares are also observed in southern regions of England, and Wales, while households in the regions of Northern England and Scotland display the lowest propensity to purchase.

For British households, social group is applied as an indicator of education and income brackets. The highest organic budget shares are observed for middle class households. Second highest propensity to purchase organic foods is observed in the upper middle class. A similar pattern can be observed in Denmark: We find that households in the middle and upper middle classes display higher purchasing propensity. Furthermore, those with medium to long periods in education have

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<sup>19</sup> Unfortunately, we cannot do the same useful analysis for Britain, as information on stated values is not available at household level, preventing us from combining this information with purchasing behaviour at household level. However, looking at the Top-20 statements that are most frequently (strongly) agreed with among organic buyers in the British household panel, compared to the average household shopper in the panel, suggests that British organic buyers may share some values with Danish organic buyers. Thus, the statements most over-indexed (16% more often agreed with among organic buyers compared to the average shopper) concern organic foods tasting better and having better texture – both relating to private good attributes. Statements on public values such as organic foods having animal welfare and environmental attributes are also over-indexed among buyers, but to a lesser extent though (12% over-indexed). Very interesting, the health related statement 'organic foods are safer for children' is the least over-indexed (9%), indicating that health concern is less prevalent among British, rather than Danish, organic buyers. Note, however, that we have no information on standard deviations for these index estimates, unfortunately prohibiting us from testing significance of difference between buyers and non buyers among British households.

increased propensity to purchase organic foods, especially in the case of the former educational group.

In Denmark, the presence of children younger than 15 years increases propensity to purchase organic foods significantly. Remarkably, the presence of children aged 15 to 20 years (living at home) has the opposite effect, reducing propensity to purchase organic. The presence of children (regardless of age) in the household does *not* significantly influence organic budget shares in Denmark. Furthermore, when breaking the 'presence of children' variable down by number of children, instead of age brackets, we find that the presence of one or two children increases buying propensity, while the presence of three or more children decreases it – in both cases, however, not significantly. In Great Britain, a somewhat similar pattern can be observed. The presence of children is also important, and lowers the organic budget share significantly. For each additional child in household, the propensity to purchase organic foods decreases.

Thus, propensity to purchase organic appears not to be related to the presence of children per se, but rather to the presence of younger children. One possible explanation may be related to food expenses constituting a relatively heavier economic burden in larger households, leaving less extra money for organic goods. Thus, at early ages of children, parents care more about food safety and then, in adolescence, the increasing cost-of-living/family size effect takes over.<sup>20</sup>

Age significantly influences British household organic budget share, with middle-aged households having the highest propensity to purchase organic, and the youngest and elderly shoppers most reluctant to purchase organic. For Danish households, a parallel pattern cannot be observed. Instead, propensity to purchase organic foods generally increases with age, with a local peak for households in the 40-49 years age bracket.<sup>21</sup>

### **3.7 Information and labelling**

There appear to be basically two ways for producers to increase trustworthiness (and for consumers to ensure authenticity): the first is direct personal contact between the producer/seller and the consumer, which is achieved when purchasing foods at farm gates, markets or specialist stores. Direct personal contact makes it possible for the consumer to receive detailed information on specific producers and products. The second involves labelling or other standardised information provision on product attributes. For organic goods sold in supermarkets, which are most often produced at large scale industrial food production units, information such as labelling is the only way for consumers to identify authenticity. For this type of organic market, well-

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<sup>20</sup> It is possible that a similar pattern might be observed for British households, but data restrictions do not allow this analysis: unfortunately, we have no information on age of children in the household.

<sup>21</sup> Repeating the regression analysis for Danish and British households for specific product groups reveals that these effects from stated values and concerns are relatively stable across product types. Some interesting exceptions are visible however: organic fruit, milk and eggs are primarily purchased by younger consumers, organic yoghurt by elder consumers, while organic vegetables are purchased by households at all ages. Households in Wales, western and south-western regions of England generally display a relatively high propensity to purchase organic, but looking at product groups reveals that this does not hold for organic eggs and vegetables – most probably because farm gate sales and home production are prevalent in these areas. Middle class and upper middle class households display higher propensity to purchase organic eggs, milk and yoghurt, while organic fruit and vegetables are primarily purchased by the middle and lower middle classes.

known, unmistakable and trustworthy labelling is a precondition for sustaining and developing high organic market shares.

Our survey results tell us that the national Danish organic label is well known<sup>22</sup>, and in general, people have a good understanding of organic inspection and certification rules. However, in the main, respondents believe that the label is more comprehensive than it actually is. Surprisingly, there are almost no significant differences in knowledge of the rules behind the organic label between buyers and non-buyers. Most respondents have general confidence in domestic products with the Danish organic label, although notably fewer have general confidence in foreign products carrying the same label. Trust in organic products without the label is low, especially for foreign products. Thus, the Danish organic label – being trusted and well-known – appears to be an effective instrument to enhance trust in imported organic products.

If consumers are willing to pay more for specific attributes, there may be a *societal value* associated with providing reliable labelling. Labelling gives consumers the possibility of distinguishing organic goods from other goods and ensures freedom of choice among different goods at different prices. Using econometric (mixed logit) modelling, we have estimated a positive willingness to pay for organic goods. Very interestingly, this willingness to pay turns out to be highly dependent on sales channels.

Furthermore, our results suggest that the organic production rules are commonly perceived as ensuring enhanced food safety, even in relation to food safety risks that are not handled directly in organic farming rules (such as salmonella, campylobacter and BSE). This is quite interesting and suggests that the organic label is working in two ways: first as a distinct label, ensuring specific benefits for organic products; and second, as a broader, vaguer label which is interpreted as signifying more universally benign outcomes such as generally enhanced food safety.

Estimating and testing an econometric food demand modelling system (the Almost Ideal Demand System), we find that the hypothesis that the household purchase decisions on one organic product type are made separately from demand for another organic product type is clearly rejected. Furthermore, we find that cross price effects between different types of organic goods are generally higher than cross price effects between the corresponding conventional goods. This means that different types of organic products are closer substitutes than conventional products. Thus, organic attributes (for example, environmental or health attributes) can, to some extent, be transferred, for example, from organic meat to organic vegetables. This implies that – at a given point in time – information provision or price reductions targeting a specific organic product will entail reduced demand for other types of organic products (crowding out). For that reason, public information campaigns should promote general organic attributes rather than specific organic products.

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<sup>22</sup> The situation in Britain is a little different. There are a total of five approved national inspection bodies and corresponding labels. Of these, the Soil Association logo is the most widely recognised, certifying more than 70% of the organic foods in Britain.

## 4 SUMMARY OF OMIARD FOCUS GROUP DATA REANALYSIS

The EC co-financed OMIaRD project had, as its main focus, an analysis of market and policy conditions under which organic producer marketing groups could improve their economic, social and ecological performance, and extension of these beneficial impacts to improve rural development. In addition to assessment of overall market structures and dynamics, and in-depth investigation of the producer groups themselves, the project undertook qualitative market research which explored consumer behaviour, perceptions and attitudes in eight European countries.<sup>23</sup> Participants included occasional as well as regular consumers of organic foods. Focus group material was analysed for issues relevant to market channel and regional origin (Zanoli, 2004), but contained much additional qualitative information about consumer motivations and attitudes concerning general food quality and safety; discussion of low input and OLPs also turn up in the transcripts. In this section, following a brief description of the method, its application and the analysis of this data (including a new meta-analysis covering three of the original eight countries), we outline and comment on the principal quality and safety issues of concern to consumers.

### 4.1 Focus group method

Focus groups (Greenbaum, 1998) are frequently used in market research. In essence, they involve semi-structured (that is, guided by protocols rather than specific questions) interactive discussions, usually over 90-120 minutes, involving between 8-10 individuals and conducted by a trained moderator. The interaction between participants usually allows rather deeper and contrasting insights to be obtained than from a formal structured questionnaire approach.

The objectives of the OMIaRD focus group research were to explore perceptions of who organic consumers are, assess the level of information concerning organic products and similar 'competing' products (integrated, natural, etc.), provide overall background information on attitudes towards organic products, and identify the most effective way to communicate with target groups about organic products and organic market initiatives.

Six focus groups each were conducted in each of the partner countries in 2002; half comprised regular consumers, and the other half occasional consumers.<sup>24</sup> Six additional focus groups were conducted in each of the four regions where in-depth case studies of selected Organic Marketing Initiatives (OMI) were carried out (AT, FR, IT, UK). Part of the protocol for these latter groups was the same as for the main interviews, but participants were divided into groups who had awareness of the existence of the OMI being investigated (and its brands), and those who had not. Within the groups, quotas were: gender (25-40% male), age (at least 25% in each of the 18-35, 36-54, 55+ age groups), family (at least 25% have children younger than 14), and employment (at least 25% are working full-time). Interviewees were paid a small incentive for their participation.

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<sup>23</sup> AT, CH, DE, DK, FI, FR, IT, UK

<sup>24</sup> Consumers who make at least one organic purchase a week are considered to be regular consumers; consumers who buy organic occasionally (understood as two purchases a month) or who never buy organic are considered as non-regular consumers.

Each protocol contained an introductory, ice-breaking preamble before beginning the main part of the discussion, where participants were asked for their spontaneous associations with the term 'organic food'. This elicited many ideas about attitudes, images and knowledge about organic products. Other questions developed issues around marketing, origins of products and then went on to use projective and associative techniques to explore beyond the mask of 'social desirability', many of the responses revealed attitudes which are of direct relevance to our reanalysis here.

Discussions were video-taped to allow transcribers to identify which participants were responsible for each contribution. Moderators also held a debriefing session with their assistants immediately after each discussion in order to note central topics, problems and questions or hints for other moderators. These documents provided additional fruitful material for analysis.

Each partner developed a national codebook on the basis of discussion transcripts. Reliability was measured and conflicts resolved, and these individual codebooks were merged centrally into one meta-codebook, again, measuring reliability and resolving conflicts. Grounded Theory (Glaser and Strauss 1967) was used in order to 'go beyond' the data and develop ideas, making sense of much of the diverse patterning in the data by developing theoretical ideas at a higher level of abstraction than the initial data description. The final codebook incorporated standard, theory-based elements and elements generated from 'grounded' theory. Transcripts were then recoded according to the final (European) meta-codes supplemented with national requirements.

The analysis was conducted firstly in the native language of the focus group, so that data was interpreted by people sharing the same cultural background, mostly by moderators or assistant moderators. For coding and analysis, qualitative data analysis software was used.

The following sub-section provides an overview of the OMIaRD results with particular emphasis on the quality and safety dimensions. In this context, origin has a pivotal importance, since it has a critical significance in both perspectives. There is a general agreement that the origin of food products is important and that local produce is preferred in the purchase situation (because quality characteristics such as naturalness, authenticity and freshness can be assured). Local origin is associated with something positive, friendly and small and is frequently mentioned as complementing trust aspects (which is important, since trust is considered one of the basic concerns in the investigation of safety issues).

## **4.2 Organic and 'low input' food quality**

One of the most striking insights to emerge from analysis of the focus group transcripts is that 'organic' does not just stand for quality, it is a quality in its own right. Even though organic and other low input foods can be described of good or poor quality, the type of farming production system, the scale of businesses and their ethical orientation, and the channels through which they are delivered imbue products with characteristics as a result. Another striking insight is that most (including regular) consumers' understanding of these attributes is far from clear, and far also from the crisp and carefully designed academic definitions which are so familiar to researchers in the field.

A helpful division of the overall image of organic products, therefore, is into two types; those issues which depend on direct experience, and those which can only be judged on the basis of confidence in the whole system of organic production. Quality in the first category revolves around taste, texture, appearance, freshness and presentation and packaging; in the second are authenticity (absence of contaminants), healthiness, purity, naturalness and the more social values of environmental care and animal welfare. Overlaying these, and contributing to the overall perspective (emphasised particularly in this focus group research) is the question of **origin**: local products are assumed to be fresher and better tasting, and trust can be enhanced by personal knowledge of and sometimes even relationships with the producer. Smaller, more traditional farming systems also engender more trust; there was evidence of suspicion of intensive, industrial scale agriculture from the point of view of both health and of environmental impact. Appreciation of regional origin is mainly motivated by two aspects: environmental issues, such as reduction of traffic, of food miles, of pollution (AT, UK, FI, DE) and product quality – purity, freshness and absence of chemicals - (AT, IT, UK, FI, DE, FR).

Authentic taste and good texture are specific attributes that give consumers pleasure when eating organic products. The **taste** of food is the central quality criterion for long-term customer satisfaction. Organic food is often perceived as tasting better than conventional products. For some, organic products provide a special quality, in particular “the more intensive taste and the freshness of products”. Organic food taste is, in other words, more authentic and full-bodied, and in this way it evokes authentic and powerful feelings. According to this perception, organic food is mainly associated with seasonal products. On the contrary, non-seasonal products are viewed as insipid.

In Switzerland, two occasional consumers were, independently, persuaded to buy organic meat when it was on special offer; both were so impressed by the taste quality that they continued buying after the promotion ended. In the UK, taste was clearly mentioned as a personal buying motive, specifically with references to potatoes, carrots and bananas, whereas for pears and other fruit, participants were less convinced about taste as a motive for buying organic.

In addition to taste, **texture** is also important, and organic products should have appropriate crunch or tenderness, partly deriving from their freshness. In particular, “organic fruit and vegetables have much more taste, and are less bland”, according to a French regular consumer, and another said with emphasis that they have “flavour”. Some occasional consumers from the same interviews do not have the same perception, however, so that the taste of organic food is also characterised as “bland” or “not always good”. In the UK, one regular consumer talks about friends who find it difficult to enjoy organic food which they experience as natural, but therefore as tasteless and dusty. Another occasional consumer describes taste as not being like “normal food at all. The flours and the pasta I think taste quite extraordinary”. In Austria, interviewees’ impressions of taste vary from “bad, dry taste”, “tastes different” to “it tastes better”. In France, “Label Rouge products such as eggs and chicken often cost less but have better taste”. In Italy, both for occasional and regular consumers, the enhanced quality of organic products is recognisable through taste. For many consumers “the taste of organic products is authentic, appetizing...”. The idea that origin affects the taste of food in general is shared in Germany, the United Kingdom and Italy. In general, fruit and vegetables are associated with warmer countries, where the “territorial association” allows a consumer to eat products with a more intensive taste (IT).

The other directly experiential characteristic is organic products' **appearance**, from which freshness may be judged. From some consumers' point of view, poor appearance of organic foods when compared with conventional could reflect the low quality of products. Alternatively, some consumers understand such aesthetic imperfections as a guarantee of the absence of chemicals: "...food that has not been treated by chemicals and pesticides in order to enhance or apparently enhance it in terms of storage and looks and having been eaten by termites and beetles or something." (UK). For some consumers this opinion is reinforced by the consideration that the appeal of organic products is based on the fact that they are sold "dirty". These are elements which might seem to make products unattractive, but in fact help to reinforce the natural image of organic products (UK, DE).

British regular consumers are unconcerned by the fact that organic products might be "slightly rough and ready and maybe a bit dirty, muddy maybe"; they have "a better taste, but not terribly attractive"; organic was associated with "usually disfigured and discoloured vegetables", but for some participants the greater variety of shapes and sizes was seen as positive. For a Danish interviewee, "organic products are attractive because they taste better – it is as simple as that – it is not a political or ideological thing". In Germany, long-established consumers seldom refer to taste, appearance, shelf-life or freshness; it is occasional consumers that comment negatively on the appearance of organic products. In Austria, "at our weekly market the apples and tomatoes taste really authentic, even if they do not look as immaculate as in the supermarkets"; "Some people only want to buy perfect looking fruits – and organic fruits don't look perfect!" Organic products are seen to have better keeping qualities: "the products keep their flavour". In France, fruit, vegetables and bread were perceived to keep for longer, and chicken not to reduce in size during cooking; "cheese seems to keep longer". An Austrian interviewee felt that "organic salad keeps fresh about twice as long as the conventional salad." In Italy, for some occasional consumers, the appearance of organic fresh products is perceived as poor. Despite this impression, the taste of organic products (especially fresh products) is perceived as different compared to the conventional alternative, perhaps because people are no longer used to eating unmodified products; it reminds some people of "how fruit and vegetables used to taste".

**Freshness** can be assured by consuming local products: in fact fresh food, as mentioned by several consumers, can be damaged during long transportation. Regional products are perceived as fresh in Austria and Italy: "the nearer the farm the better the quality and freshness". Regular, committed consumers are more likely to be critical of food products moved long distances, even organic: "If an organic tomato comes from the foreign country, I will not buy it. I would prefer to buy a conventional tomato from Switzerland than an organic one transported long distances by aeroplane."

Regular consumers think that **packaging** of organic products should respect and reflect the ideology which is at the basis of organic farming; for this reason less packaging should be used, or should use recyclable materials. Moreover, the image of fresh products should be improved if a negative image of organic farming is to be avoided ("there is always some mould on organic products" IT).

Among qualitative meanings, not directly perceivable by product consumption, some others organic quality attributes arise. The common, in all countries involved in the research, are related to **purity**: "...pure at the same time, dirty but pure" (UK); to **naturalness**, which emerges from the mental association to "Mother Earth"; and to

**authenticity**, which is associated to the absence of chemical inputs. "...organic food is better, it is not contaminated" (UK); "...organic products contain low fertilizers and for this reason are more authentic" (IT).

In addition, some environmental concerns arise from the group discussions in all countries. Focus group participants give little weight to animal welfare but see the consumption of organic products as a mean of contributing to a **sustainable environment**. The consumption of organic food is perceived as part of a general emphasis on an environmentally-friendly lifestyle which aspires to respect for nature and for inhabitants of the Earth (FI and F). Beyond consumers' attitudes for environmental protection, conservation of soil, protection of drinking water (CH), respects of the natural rhythm of nature without over-exploiting the natural resources of the land (IT) and prevention of traffic (AT), consumers want to live in harmony with nature and its seasons. This aspiration can be realized in practice by buying local and seasonal products. Since Italian consumers identify organic foods with local foods, they are more sensitive to such environmental issues, as it can contribute to the revival and protection of typical products.

Therefore, regional organic farming is strongly associated with "traditional production and traditional way of life"; this "living in harmony with nature" results in fresher, more natural food, providing healthier nutrition which was a goal for almost all interviewees. However, in some groups, a more strongly romantic view was expressed: a characteristic feature of the some focus groups was recurrence of references to the past, compared favourably with the present day food situation, and the better taste that reminded participants of "better" times. Better food then resulted in better health among previous generations.

### **4.3 Organic and 'low input' food safety**

All groups associated organic and other 'natural' foods with freedom from modern agrochemical residues and other food safety hazards. In many focus groups, quality aspects were primarily related to **health** and safety matters. The health issue emerges in two ways: either participants directly identify product attributes they perceive as healthy (containing less or no pesticides and additives, nourishing, rich in vitamins, and with no genetically modified organisms) or they relate them to their own or to other's health (children, ill people, people with special needs) which can be maintained or improved by eating organic food. Organic food is practically synonymous with a healthy wholesome way of living; health is a "holistic" concept which involves lifestyle and perception of wellbeing.

Organic food ensures "that my food is GM-free"; "The first thing I think of is pesticide and additive free products ... the more organic products we buy the less the countryside will get polluted"; "'natural' is a guarantee of safety because they do not contain anything that can damage your health". More pragmatically, that means an authentic product which is something simple and 'genuine', a basic commodity, something 'plain' and 'unadulterated' in the sense of there being no colouring or additives.

However, these were generalised concerns; what purity actually meant was seldom elaborated in interviews, even though concepts such as chemicals, residues and generally "poisons" were regularly mentioned. When people refer to the health aspects, they generally mean that they would like to reduce exposure to chemicals in

their diet. In France, growth in organic consumption resulted from the 'discovery' of organic farming through meat products. Purchasing out of concern for food safety gave credibility to organic farming as a whole and so helped to secure a growth trend. The BSE scare provided tremendous consolidation for people's concerns about food safety: because "products are 'natural', that is a guarantee of safety because they do not contain anything that can damage your health". Allergies were mentioned in Italy, in the UK and elsewhere as a potential buying motive, acknowledging that the risk of contamination of conventional foods remains one important driver for organic purchases. In Italy people consume organic products because they are afraid of the damage conventional food could do to their health, or because they are worried about their children's health. Children, in fact, were often mentioned as needing pure food, especially by women. One female Danish participant said "when I think of organic products I think of the word necessity, a serious and alarming necessity ... I do not think much about health issues, not my own health at least, my children's health I think I do, but not my own".

Whilst these kinds of view were predominant, they were not always unqualified. In one Finnish discussion, participants expressed the view that health is more about overall food habits than residues and additives, and concern about the low selenium levels in organic foods came up in two discussions. Recent food scandals have produced a certain degree of uncertainty and, as a consequence, better quality of information concerning food is desired. In this respect issues concerning the authenticity of the organic product emerged. This is, for some, a matter of **faith**. A Swiss regular consumer expressed the feeling that "it is healthier ... even if there are people who say there is no concrete evidence for that assumption". In contrast, in France, one interviewee asked "What guarantees are there? How can inspections be conducted? What does that mean in terms of standards? I don't know ... How does it all turn out?" Consumers want to trust the reliability of the health aspect of organic food. For example, in Austria, organic quality is seen as ensuring that food is GM-free; in Italy, there is a desire that respect for human rights should be guaranteed by organic food. Consumers want to be sure that they can trust organic products and that producers and certification bodies follow the rules. In some of the discussions in Italy, Austria, the United Kingdom, Switzerland and France, it became clear that a number of consumers do not trust labels at all. Therefore, trust involves both personal trust (in farmers) and institutional trust (standards and labelling). Strict controls, transparency and clearly defined standards must be carried out and made known to consumers. A clear consequence is that product information needs to be developed.

**Traceability** is also a difficult idea for consumers to understand. Although designed to reassure them, the idea of traceability is not always perceived as a guarantee of having a safe product. It can be seen as a form of sharp practice to quell consumer fears about food risks. It even seems materially difficult to achieve for some categories of products such as vegetables: "... their traceability. I think it's a lot of bluff, a lot of lies in some way." There is particular concern about the enforcement of standards by multiple retailers, especially at the discount end of the market. For example, in the UK, one interviewee would not trust their organic products (also displaying the kind of confusion rife among occasional consumers): "The organic standard in the supermarkets is lower than [*that of*] the producers, because they allow 22 different chemicals and it will still get the organic status". For an Austrian interviewee, insecurity about organic products was vague but troubling: "I just have the feeling that we cannot know if something really is organic, I am always afraid there's a fraud going on". For these reasons, Italian non-regular consumers suggest

need for an emphasis on product traceability which gives consumers a clearer guarantee that the product is organic.

In terms of perceptions of the safety of food, the question of **origin** has a crucial importance. Freshness is an important qualitative aspect and consumers feel that this can be guaranteed from local production: “if it is grown locally, then you can be more certain that it actually is organic” (UK). Trust can be enhanced by personal knowledge of and sometimes even relationships with the producer. In this context, consumers are more reassured, they perceive the possibility for directly “verifying” from contact with the farmer (IT). Smaller, more traditional farming systems also engender more trust; there was evidence of suspicion of intensive, industrial scale agriculture from the point of view of both health and of environmental impact.

#### **4.4 Results from a meta-reanalysis**

For the purposes of this review, a meta-analysis based on the focus group materials of the OMIaRD project for three countries (Italy, Germany and United Kingdom) has been undertaken. This sub-section provides a summary of the results.

The objective of this meta-research was to specifically study consumers perception with respect to the quality and safety of organic, “low input” and origin-labelled products. A content analysis of the qualitative data and interpretation of these results allows identification of a list of consumer-relevant characteristics of organic products. To achieve this, five dimensions of consumption have been investigated: relational; environmental; health and wellbeing; pleasure and enjoyment; and place of origin. Organic products can be seen as a bundle of characteristics that consumers recognize and appreciate, both physical (perceivable attributes) or abstract, and perceived in the form of cues (Steenkamp, 1989). The following quality & safety attributes/cues of organic products have been identified:

- Organic products are relevant to consumers not only for their intrinsic quality and safety (the “purely organic” dimension), but for their “ethical” content as well. Buying organic expresses consumers’ willingness to contribute – on a small scale – to a better world, although the product’s perception may be different from individual to individual. For example, local products can be seen more “ethical” to some consumers if compared to “imported” products, due to food mile issues (see below). But for others buying exotic products is seen as a way to improve the conditions of low income countries, and the organic dimension is coupled with a fair-trade dimension.
- At the same time, a closeness of consumption to the place of production strengthens the environmental dimension of organic products, but this is not the whole story. Local productions are linked to “tradition”, a value associated to certain quality and safety characteristics (freshness, naturalness, etc.) and facilitate the relation with farmers and territory: this is the social and relational dimension of quality and safety.
- Further, consumers identify better product knowledge with improved safety. The safety of food is directly linked, in their mind, with greater amounts of information on product authenticity, origin, traceability, etc. In this respect a local product is seen as safer since – in the consumer’s *Weltanschauung*, or philosophy of life – the producer is “closer” and more easily able to “personally verify”.

- In the mind of consumers the taste of fruit and vegetables is strongly influenced by the effect of growth seasons, although consumers directly link the organoleptic quality characteristics of organic products to a specific territory (what the French call *terroir*), which has become more and more relevant to food issues and now not only for wine.
- Labels contribute to consumer reassurance by communicating different elements that they consider relevant (e.g. origin of the product): effective labelling is an important aspect in the relational dimension of quality and safety for organic products.
- Physical and psychological well-being and health are unquestionably the most common quality and safety dimensions associated with organic products by consumers. In most cases, they are linked to intrinsic characteristic of organic products (i.e. nutritional content, lack of dangerous residuals and chemicals, etc.) and only to some extent to the extrinsic aspects of the production method *per se* (i.e. the lower global environmental impact of organic farming).

According to these results, some conclusions can be drawn. Firstly, quality and safety are strictly intertwined, and safety can be seen as a sub-dimension of quality: a product is perceived as safe if it is of a quality that appears to contribute to the consumer's health and wellbeing, if it is environmental friendly, if it is "close" enough to the consumer, and if its informational/relational content is reassuring enough to allay the consumer's fears. Only the organoleptic, hedonistic dimension is not directly related to safety.

Secondly, quality and safety go beyond the tangible attributes of organic products. Quality is, first of all, a value inborn in consumers: it is at the same time "environmental quality", "health and wellbeing", "organoleptic quality", "nearness to production" and, overall, "relational quality". In the product itself, quality becomes intrinsic and "objective", although it is always mediated by consumers' own personal perception.

#### **4.5 Implications for QLIF**

There is a clear, strong differentiation between the views of regular and occasional consumers of organic products in all of the countries which participated in this focus group study. For regular consumers, the quality of organic products is a tightly connected bundle of attributes involving experiential and imbued characteristics, which rely on an acceptance that the guiding concepts of organic farming will deliver. That strong faith is not reflected in the attitudes of occasional consumers, and although they have the same concerns as regular consumers, their rather looser set of general anxieties is compounded by lack of knowledge. This general insight is coloured by some distinct regional differences in Europe: for Austria, local sourcing of food emerges more strongly, particularly gaining trust in food from personal knowledge; in Denmark and Germany, longstanding environmental concern gives more emphasis to the ecological dimension, although it works through to the level of individual consumption; for Finland, consumer concern for health was revealed in a more thoughtful and reflective manner, whereas in Italy it is reflected in the importance given to the quality of life, since eating organic food is a lifestyle choice; in France, quality of organic food links to a strong culinary tradition and positive attitudes towards the countryside environment and for the UK, much growth in

consumption and consumer conversion has come from the scandals which have hindered the conventional food sector, with health also prominent.

Although from the literature it might appear that committed consumer demand is currently saturated, the most recent research (some of which has yet to appear in the public domain) suggest that there has been increasing per capita expenditure of already committed organic consumers. For them, it appears that the organic market is reaching the maturity stage in which more products are available, and more competition allows better choice among both products and outlets, increasing their confidence and, overall, their loyalty to the product category. On the other hand, lower per capita growth for occasional consumers of organic products may be due to the fact that they are still too expensive, at least in terms of value for money. Also, current economic conditions, combined with a lower profile of food scandals and 'mainstreaming' of organic products which reduces the emphasis on difference in production and delivery methods implies that, for the vast majority of consumers, organic is 'stuck' in development phase of the product life-cycle curve.

Nevertheless, strong growth will only come from those who are as yet uncommitted organic consumers. This raises two questions. First, the needs of each group are not entirely compatible; how can production, processing and marketing be developed in such a way as to satisfy the second group without alienating the first? Second, there is evidence that, as some uncommitted consumers gradually consume more organic products, their interest is kindled in the overall underpinning viewpoint of organic production and they develop into committed consumers; what is the dynamic of this process, and what impact will it have on the longer term development of the market? These questions will be taken up again and explored in more detail in Section 7.

## 5 SUMMARY OF OMIARD LADDERING DATA RE-ANALYSIS

In the OMIARD project, laddering interview material was originally analysed country by country in order to “investigate consumer expectations, attitudes and behaviour intentions with regard to organic food in Europe, with particular emphasis on quality, distribution channels, regional origin, environmental, and health aspects” and also to “identify specific needs and wants that can be met by organic products as well as barriers to purchase, in order to increase the demand for organic food produced in Europe.” (Zanoli, 2004). However, overall results were only compiled from aggregated single country results and not from analysing the whole sample altogether.

Transcripts contained much additional qualitative information about organic food quality and safety issues which have not been specifically analysed up to now. In this section, following a brief description of the method, its application and the analysis of this data, we outline and comment on the principal quality and safety issues of concern to consumers.

### 5.1 Means-End Chains & Laddering Method

Laddering is an interviewing technique that can be used to reveal interviewees’ goals and motivations in purchasing a product because attribute-consequence-value associations (so-called *means-end chains*: Reynolds & Gutman, 1988) which explicitly link consumers’ needs and product characteristics. Understanding of the consumer purchasing process and their perception of the product is made possible by these associative networks; that is, structured means-end chains, rather than single categories of the chain. During face to face interviews lasting between one and two hours, consumers are asked to reveal relevant product characteristics and to build their means-end ladders from repetition of a simple iterative question (“Why this is important for you?”).

Through the questions used in the interviewing process, consumers were asked to build ladders for four different product categories – dairy products, fruit and vegetables, cereals and pasta, and meat products, and also on preferred and disliked places to shop, and quality indicators.

A total of 792 usable interviews were conducted in Europe in 2002 (varying between 85 and 104 per country involved; the same countries as were involved in the focus group discussion described earlier). Both consumers and non-consumers of organic products were interviewed in similar proportions. Other criteria for recruiting and quota were: type of residential area (at least 30% rural and the rest urban), preferred point of purchase (at least one third of interviewees purchasing in each of the following: direct marketing outlets, organic specialty shops and Supermarkets) and shopping habits (at least 1/3 during the weekend or on weekdays).

All researchers transcribed their laddering interviews verbatim. These data were originally coded by two independent teams in terms of attribute, consequence or values after interviewers extracted relevant chunks of meaning from verbatim transcripts. These allowed aggregate ladder-maps to be drawn for each country involved, and general tendencies for the whole group of European countries was done on a country-by-country level (Zanoli, 2004).

In this section we report the results of an overall (European) re-analysis of the original data. Data were re-coded centrally in order to create aggregated European hierarchical value maps, which are the graphical representations of the condensed means-end chains. A new software package called MECAnalystPlus was used, which facilitated the processing of the large volumes of data involved.<sup>25</sup>

OMIARD final country reports and relevant maps were eventually used to integrate the general analysis with specific results at the national level. The analyses reported here represent just an excerpt of the whole investigation. Organic food choices are explored by means of MEC approach only considering consumers' product quality and safety perceptions. According to the theory, MEC results are basically to be discussed using complete associations connecting different levels – attributes, consequences and values. However product characteristics and benefit level can be explored in more depth in order to provide a deeper insight into organic food quality and safety builders.

## **5.2 Organic and 'low input' food quality**

The way consumers make food choices can be complex and vary widely, but as Brunsø and colleagues (2002) postulated, there seem to be four quite universal dimensions in quality perception: taste and appearance, health, convenience and process. In accord with previous cognitive studies (e.g. Zanolli and Naspetti, 2002), when making reference to general motivations for buying organic products, European consumers mention above all aspects associated with health and well-being. With respect to all other aspects, health and healthiness is clearly the most relevant quality characteristic of organic products but it is also an important benefit and value for consumers.

All countries focus on this “credence quality”, that is, on product characteristics that can be barely ascertained by consumers (Torjusen et al., 2001). This interest in the **health** issue is not unexpected and can be verified in all the European maps, both country-specific and aggregated, by looking at the similar path of the most important chain: *less additives\_chemicals* → *naturally produced* → *eating healthily* → *Avoid health problems, Staying healthy*<sup>26</sup> leading in various ways to *Own health* and *Well-being, Quality of life*. At the attribute level, organic consumers show a striking difference in their reasoning when judging different food categories. Health-related aspects (that is, characteristics that consumers mention when thinking of different organic products) do not show the same level of concern about production and processing of food. Organic foods are widely perceived as being produced without chemicals, using a natural production process, making it possible to avoid substances harmful to health, and to eat products with a minimum of additives. However, healthiness is also influenced by the nutrient content of foods and by animal welfare. Animal-based food

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<sup>25</sup> The software was jointly developed by the Italian OMIARD team, in cooperation with Skymax-DG (<http://www.skymax-dg.com/mecanalyst/index.html>). The previously existing software (Laddermap) was too limited in terms of the volume of interview data which could be simultaneously analysed.

<sup>26</sup> The aggregate HVMs showing the means-end chains are read from the bottom to the top. The codes in the top of the maps represent consumers' final motivations or values, and are linked by arrows coming from the lower levels: consumer benefits or positive consequences, and product attributes (in italic) are at the bottom. Bolder arrows refer to links mentioned by a larger number of interviewees. Single codes are in italic when mentioned in this paper.

products – dairy and meat products – are above all influenced by the latter, while fruit, vegetable and cereal products are related to the idea of an additional nutritional value (*contain vitamins/minerals and/or wholesome and/or have a nourishing meal*).

Health characteristics of dairy and meat products are differently perceived throughout Europe. Health is mainly related to how the organic food has been produced and processed (*naturally produced* since it contains less chemical additives, *natural and healthy fodder, less hormones/drugs*), but in northern Europe – as reported by Naspetti (2001) and Miele and Parisi (2001) – consumers show different concerns about animal rights and **animal welfare** issues (*appropriate husbandry, animals can move free, animal welfare*). In Italy, Austria and France, consumers rarely put animal welfare among their food concerns; they mostly refer to animal well-being because of the impact that the life of the animal can have on human health. The relationship between animals and health is reiterated in the consumer requirements for healthier and tastier products (Miele and Parisi, 2001). On the other hand, there are countries (CH, DK and FI for dairy products, DE for meat,) reporting solely ethical considerations related to animal conditions, and also some (DE and GB for dairy products, AT, DK and FR for meat) where animal rights are on par with concerns for human health.

**Nutrient content** is another quality aspect that consumers link to personal health, but it is a secondary one. Organic consumer perspective is clearly referred to the perceived nutritional effects and does not reflect the nutritionist perspective (Brunsø, 2002): high content of vitamins and minerals, more nourishing meals and a healthy diet are reported by 4% to 7% of regular consumers.<sup>27</sup> This is particularly true, in Southern Europe, for cereals (pasta and bread) and for fruit and vegetables. The latest group of products is seen as more *wholesome* or with *more vitamins/minerals* in Switzerland and France. In Italy vitamin content also contributes to a nourishing meal (“I have a right contribution of vitamins in organic fruits”). Northern countries also mention nutritional aspects (“Vegetables don't lose valuable substances” – DE) but the single codes do not appear into their final maps, showing a lower interest into this matter. Organic pasta and bread “have a better nutritional value” only in Italy and Austria. Occasional consumers seem uninterested in these issues; they have even less insight into the nutritional questions, which is probably connected with their lower levels of experience and knowledge (Zanoli and Naspetti, 2002).

Moreover, sensory attributes and their respective chains (ladders) are perceived in a different way by the two groups of consumers. Among these quality aspects taste is the most relevant “experience” characteristic since food is primarily a matter of pleasure. Both regular and non-regular organic consumers perceive this, and, also, have taste expectations.

For the first group, the taste experience (*tastes good*) is usually connected with the authenticity of the taste (*real/genuine taste*), and the idea of a “broad” *good quality* (“the process of organic production and processing leads to high quality”). The results from the in-depth analysis of consumer motivation show how *real/genuine taste* and *good texture* are among the most important attributes that give regular consumers pleasure when eating organic products. These consumers show an implicit confidence in the **better taste** of organic food, probably supported by positive

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<sup>27</sup> Unlike in the focus group discussion, self-reported frequency of purchase was used to measure organic product experience and so to distinguish between self-reported regular consumers and other groups.

experiences. However, there is still little scientific evidence concerning the actual superiority of organic products with respect to the conventional ones, at least for occasional consumers (Gambelli et al., 2003).

Occasional consumers are also attracted by personal satisfaction: they want the product to taste and look good as well, but they have doubts about organic food quality. They mention that poor taste associated with the organic experience and that conventional foods are of high quality (*good quality of conventional products*).

Lack of **freshness** (*not fresh*) is an important quality cue that consumers use to infer food quality, especially in relation to fruit and vegetables. **Product appearance** is the means consumers use to evaluate taste: “organic vegetables seem like they have been picked a long time ago and seem less appetizing” according to a Swiss consumer. Product aesthetics and freshness for 11% and 18% of consumers, respectively, have an influence on expected taste experience (*tastes bad*).

Organic dairy products are considered to have poor taste by 5% of the total of interviewees, but no visual sign (packaging, brand, etc.) emerged from the analysis interview transcripts. Also, product consistency (*good texture*), which is usually used to infer yogurt and milk taste, is neither on the final map nor in country maps, revealing and confirming the low importance accorded to the sensory experience of these products when compared to other product barriers.<sup>28</sup>

Somewhat different is the situation when consumers choose organic cereal products. Organic food taste is the second main barrier, just after price. Important links are mentioned by quite a high proportion of interviewees. Consumers are dissatisfied by the poor taste (in 19% of the cases) of organic wholemeal products. Especially *wholemeal pasta* is the (observable) quality criterion used to infer taste; since they dislike it they avoid organic pasta, where wholemeal is the predominant product form.

The taste experience has a different significance throughout the European countries where laddering interviews were carried out. This hedonic dimension of food led to enjoyment while eating in most of the countries investigated (AT, CH, DK, FR, DE, IT), and can be traced back to a desire for the *real/genuine taste* of organic food but also to other “perceived” characteristics. Interviewees address good taste (*tastes good*) by referring to non-sensory characteristics. Health considerations (*less additives/chemicals*) and a “**natural production process**” (*naturally produced*) are appreciated. Organic consumers especially appreciate that surpluses of dairy products are not recycled, that the natural rhythms of growth are respected (fruit and vegetables) and that sourdough is used to produce bread and low temperature processing for pasta (cereals).

Only when satisfaction is obtained through the product's sensory characteristics, a cognitive link is produced that addresses hedonistic motivations – (*feel pleasure, feel good, happiness, inner harmony or self actualisation*). In Latin countries food has a high social connotation, in the sense that people consider it socially important to serve and eat good food sharing the pleasure of eating with other people. Organic products are accepted as long as they “taste good” and are often not recognised as such. In Northern countries organic food is generally accepted as having a “genuine taste” and a better “texture”. (Zanoli, 2004)

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<sup>28</sup> Price availability and knowledge are the main factors influencing the demand of organic livestock products in Europe.

The **convenience** quality dimension is usually related to time-saving and less effort in cooking for the household, and appears to be a more important issue for occasional than for regular consumers. Both groups mention the advantages of having products which make purchase, storage and preparation easier and quicker (“keeps longer, so that they are more practical” – regular AT, “products of good quality keeps longer so it is going to be used totally” – occasional FI). Less experienced consumers seem to be more worried about having to change habitual food purchase and eating behaviour (*use habitual shop/product*): “I buy just what I’m used to buying”, according to an occasional Italian consumer. Poor availability (*not easily available* and *not available in habitual shop*) is a relevant barrier, but the importance of specific concepts is different. Strong regional differences affect organic purchases with regard to the availability of organic food in general and to specific product categories. In Italy, despite the fact that organic products are available on the shelves of 95% of supermarkets and that most large retail chains have their own-brand for organic products, the range of products sold is not very wide and so consumers complain about the issue of availability.

In other countries the availability of certain products is poor, and also quality is not so attractive as compared to other products. Maps of cereal products in Great Britain, but also the small number of consumers investigated for meat products in Finland, Italy and Great Britain, reflect the status of these organic products in those countries: not sold until recently, they are yet to establish a presence. Local and conventional products are an excellent alternative to the organic choice (respectively, in at least 9% and 12% of the cases) and their prices are lower. Local origin (*local/regional products*) of dairy products is particularly appreciated by Austrian consumers, who are convinced that they can eat healthily as a result.

### 5.3 Organic and 'low input' food safety

If we go beyond the health considerations covered in the previous section, food safety seems to be linked not only to consumers’ risk perception of introducing “harmful substances” (*eating healthily*) through their diet, but also to a lack of trust in the organic supply chain.

The perception of risk is influenced by a generalised health concern and only exceptionally by the presence of a real safety problem. Consumer choices show a clear fear of eating unhealthy products, since they believe they contain poisons (*less chemicals/pesticide/fertilizers*) that accumulate in their body (*avoid worries/feel safe*). But *food scares* and health problems (*avoid food intolerances/allergies*) - despite being coded in some countries, for example in Italy and UK – do not appear in any of the cognitive maps,<sup>29</sup> showing how small is the influence of these factors on immediate consumer behaviour. In this sense **food safety** can be considered as a ‘sleeping criterion’ which is not a dominant motivation in normal conditions (Grunert et al., 2004).

Nevertheless, laddering analysis shows that there is a generic feeling of healthiness associated to organic food (“I buy all my organic products for health” – FR). And there are a growing number of people citing health as reasons for their interest in organic products. This is not only due to their desire for a healthy life but also in order to avoid specific health troubles: for example, “I can avoid getting

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<sup>29</sup> Maps referred to “special situations for buying” (see Zanoli, 2004)

cancer”, so “as to avoid illnesses”; “...for my digestive system, I don't have problems”.

With respect to safety, consumers express anxieties not only with regard to the use of agrochemicals. They also choose organic food in order to avoid use of hormones and medicines in animal production (*less drugs/hormones in animal production*), of GMOs, and artificial additives (*less additives/chemicals*) in fruit and vegetables.

But safety, in many cases, is influenced by other key factors affecting consumer orientation. It is mainly a matter of **trust**: in the point of purchase, in the producer/processor and their methods of production, in the inspection and certification system, and in local, regional and/or national products.

Safety of food is very important when shopping for organic products, whatever the shopping outlet (Zanoli, 2004). European consumers of these products seem to be unenthusiastic in their support for mass-market structures, mainly for reasons which are linked with their main motivations of health and well-being, and the entire retail channel probably requires to make a better response to these consumer expectations. Rejecting the idea that all food in supermarkets is safe (Grunert et al. 2004), they turn to organic and local shops for their organic purchases.

In general consumers seem unaware about production and processing methods and ask for more information. “Local (national) food products avoiding long transportation” (AT) are often related to the issue of trust and safety. Two different considerations emerge from the desire elicited from transcripts to know the origin of the product. In some countries, for example dairy products in Austria, consumers seem to be proud of the quality of their food production. In others, consumers seem to place more trust when the place of production is closer; they want to evaluate the quality of the product based on personal experience of the producer (*can personally verify*). But there is also another facet of product origin. Occasional consumers, especially those living in the countryside, often say they are not interested in buying organic products since they produce home grown vegetables and fruit and can be much more certain about food safety (*eating healthily*). These consumers seem to be more sceptical towards organic produce, and are also less interested in food certification, perhaps due to the lack of information.

Responding to consumers' information needs appears as a key factor in the solution to the trust issue (Zanoli, 2004). Vergunst (2001) describes local food systems as a replacement of impersonal exchange with personal relationships of trust. However, trust in local food systems might also be generated because of the confidence in a familiar social structure, rather than in individuals who are known directly. In this sense, better communication and more transparent inspection and certification systems could increase consumers' trust, which can be inferred from the analysis of the OMIaRD European maps.

#### **5.4 Implications for QLIF**

The OMIaRD results – like most of the studies inquiring on food quality (Aakkula et al., 2004; Bariolle and Sylvander, 2001, Bredhal, 2003; Fotopoulos et al., 2003; Grunert et al. 2004; Sylvander, 1998) – indicate out that quality dimensions and considerations are among the most important aspects in any food purchase.

However, consumers usually connect it to health, and/or to safety, but not to an actual food quality perception.

Despite higher consumer awareness in organic food, product knowledge still appears low for occasional as well as regular consumers. OMIaRD research showed that there is still little knowledge of how organic products are produced and processed and which characteristics are fundamental for the consumer with regard to quality and safety.

Consequently, primary producers, processors and other stakeholders in the organic supply chain have the difficult task of understanding consumers' complex, vague and sometimes contradictory requirements with regard to organic food quality. In order to understand these needs and to find out how to translate different conceptions of quality attributes and food safety into practice, it is necessary to explore quality standards much more in depth. The need also emerges to solve existing gaps among different actors in the organic food chain and to determine which of these aspects can be fulfilled in a profitable way (Brunsø et al. 2002).

For example, people associate organic food with a natural process and with food products that are either unprocessed or at least have a low level of processing, but modern lifestyles demand convenience products. Improving consumers' choice options when a product is healthy or a production method is natural could help to satisfy consumers' needs as well as reward producers' efforts. As common consumers will probably never become skilled "evaluators" of food, it is necessary to discover the simple indicators that they use to infer quality.

With regard to safety, consumers have a broadly agreed conception of it as a quality attribute rather than as an attribute of food on its own. They associate food safety with anxieties about possibly harmful substances but they almost express no real concern about a real health risk. There is a need to clarify whether this behaviour is linked to specific products – as Bredhal emphasised with regard to GMO products or to different production systems (Torjusen et al., 2004).

Consumers have also become more interested in the local orientation as well as in the origin labels of organic food, also because of the increased distance from production to consumption (Torjusen et al., 2001). Further investigations should try to understand which safety cues are used by the consumers during these domestic choices, how to solve their mistrust and how safety (and quality) could be better delivered in order to allay consumers' anxieties.



## **6 COMPARISON OF QUALITATIVE DATA AND FOCUS GROUP ANALYSES**

In this section, we compare information derived from the OMIaRD consumer workpackage, in particular the focus group and laddering results outlined in the previous sections, with findings from the reanalysis of DARCOF panel data, reported in Section 3. This comparison is interesting in the European context, since material from the DARCOF project relates solely to the Danish and British organic markets (respectively, the largest and the most rapidly developing), whilst the results from OMIaRD are drawn more widely from studies undertaken across eight European countries.<sup>30</sup> Furthermore, the analyses not only differ in scope but also in methodology: the former reports on the actual purchasing behaviour of consumers, through an examination of household panel data (see Appendix B), whilst the latter focus group method is designed to allow the emergence of deeper insights. Since the exercise combines the results of both quantitative and qualitative approaches to market research, it is able to provide a fuller picture of what is already known about attitudes towards organic quality and safety, and enables important issues about consumer perceptions and gaps in knowledge to be more readily identified and validated. Some differentiation according to levels of consumer participation in the organic market, different supply chain structures and degrees of consumer knowledge is also possible.

### **6.1 General findings**

Mention has already been made in Section 2 of the various ways in which organic quality and safety attributes are conceptualised in studies. Their complexity and interdependence in relation to consumer perceptions of organic food are exemplified in the DARCOF analysis, in which the important distinction is made between private goods and public goods, and 'use' and 'non-use' values, in order to analyse the Danish panel results. On the assumption that private goods are enjoyed by single households whereas the consumption utility of public goods is shared, the private good attributes of organic foods, such as freshness, taste and health, are said to have use values, whereas public good attributes are assumed to relate to non-use values, such as improved environmental or animal welfare criteria. In the Danish survey, respondents ascribed weights to these values and this allows the relative significance of different organic attributes to be determined.

Interestingly, the results of the exercise show that although improved animal welfare and environmental protection emerge as the two most important features of organic production, it is actually the private good attributes that encourage consumers to buy organic foods. The DARCOF panel data shows that health risk concerns (about the effects of pesticide residues, for example) increase consumers' organic budget share significantly, whilst public good attributes, although widely recognised, do not have a significant effect on purchasing behaviour. Conversely, important private good attributes reducing organic share of consumption include lack of trust (in positive health effects, and in control factors), lack of (stated) knowledge about organic foods and a general lack of interest.

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<sup>30</sup> See footnote 23, above.

An appraisal of the extensive material produced as a result of the OMIaRD focus groups yields surprisingly similar results with regard to attitudes towards the quality and safety of organic food. In all the European countries investigated, consumer health was found to play a dominant role, and the results of the laddering interviews indicate that eating good quality products and staying healthy are central concepts linking health value with the attributes consumers seek when buying organic foods. Furthermore, the study supports the hypothesis that some of the characteristics that cause consumers to believe that organic products are healthier also lead them to believe that they taste better, in terms of the common perceptions of organic taste as 'real' or 'genuine'.

Like the panel data analysis, the focus groups also concluded that whilst there are environmental motives for buying organic food in most European countries, they are less strong than the more individual values, associated with own health issues or food as enjoyment. Similarly, although animal welfare also plays a role in organic food purchases in individual countries, welfare considerations do not emerge as a central motive at the EU level. Although both health and environmental issues are rooted in the same attributes and appear to be related, OMIaRD found considerable differences between countries as to the significance attached to environmental factors by consumers.

Both the DARCOF and OMIaRD analyses also identify trust as a key issue when purchasing organic since, if products are to be perceived to be healthy by consumers, it follows that there must also be trust that they are so. Trust in the entire process of organic production, and in certification and labelling, relates directly to perceptions of safety when eating organic foods and, consequently, to their health value for individual consumers. Like the DARCOF analysis, OMIaRD reports some lack of confidence in this respect: in the honesty of organic farmers, processors and retailers, and in the reliability of certification and other controlling bodies. Main trust-building factors are associated with improved authenticity and more transparency, through better inspection procedures and information provision (via labelling and standardisation, for example) and through direct personal contact with actors in the supply chain, such as at food markets or farm gate points of sale. The DARCOF analysis also suggests that there may be 'societal' value associated with reliable labelling if there is an increased willingness to pay for organic attributes as a result.

In this context, DARCOF employed a mixed logit, econometric modelling approach in order to examine the relationship between market prices and demand, and determine consumer willingness to pay for organic products. This was found to be positive, although varying according to sales channel. Similarly in OMIaRD, most of the participating countries agreed that there are clear reasons why organic foods should cost more than conventional, although value for money emerged from the focus groups as being of greater significance to consumers than absolute price. This is an important point since negative attitudes towards value for money in the organic context were also observed. Thus, in all EU countries, the combination of perceived higher prices and poor value for money may reduce the share of organic consumption significantly. If consumers do not recognise the intrinsic value of organic foods, this further supports the conclusions of the DARCOF panel, with regard to lack of trust in the health-related benefits of eating organic and the overall credibility of the production process.

Both studies highlight the complexity of consumer attitudes towards the price of organic food in terms of, for example, cross price effects and the degree of

substitutability (found from the DARCOF panel data to be stronger and higher respectively than those of conventional foods), and the variation of price elasticity in relation to individual organic products or different food categories (as reported in the focus groups). In this respect, it is suggested that some organic attributes, such as those perceived to be linked to health and the environment, may actually be transferable between different organic products, and that further studies of the implications for market demand are necessary. Clearly, price issues in the organic sector extend far beyond questions relating simply to higher premiums or willingness to pay.

## 6.2 Factors influencing participation in organic food consumption

The DARCOF panel data divides organic consumers into four groups<sup>31</sup> according to the ratio of organic to total foods in the household budget. This enables additional information about organic purchasing behaviour to be evaluated according to different groups, although findings from the reanalysis of data show that households do not always stay within the same group but may move from one category to another. The analysis also indicates that although most households have increased their propensity to purchase organic over recent years, alongside the developing market for organic foods, a considerable number have also moved in the opposite direction. This is an interesting observation in that it suggests that the perceptions of organic foods, in terms of the benefits sought by consumers and the values that underpin them, are neither stable nor permanent.

In comparison with the relatively (dynamic) analysis of observed behaviour, the focus group approach to organic market involvement yields rather static results. Based on self-reporting, group participants make a similar distinction between *regular* and *occasional* organic consumers but they are regarded as discrete segments, and characterised by different values and concerns. However, according to the findings of the focus groups, the perceived differences between organic and non-organic consumers are remarkably similar across all EU countries. The panel data investigates factors influencing the demand for organic foods in Denmark and the UK, and therefore, also sheds some light on the socio-demographic characteristics of those who are willing to pay. The combination of these two sources of information, (which yield similar results) is able to provide a clear profile of the 'typical' organic consumer, in relation to attitudes and buying behaviour.

The focus groups identified regular organic consumers as being well-educated individuals who are mindful of health issues, socially responsible and environmentally aware. Unsurprisingly, there is also a perception that they have higher product knowledge. Typically, they appear more frequently amongst those with higher disposable income and in families with young children. According to OMIaRD, the majority fall into the median age group (25-60 years old) and frequency of purchase is lower amongst both older and younger consumers. This result was also found for British consumers in the panel analysis, but not for Danish consumers. Neither employment status nor gender appears to influence organic consumption, but DARCOF found that social grouping (as an indicator of levels of income and education) was a significant factor, with high organic budget shares being observed in the middle classes in both Britain and Denmark. Similarly, the panel data also shows that geographical location influences organic share, being higher in urban

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<sup>31</sup> See footnote 11, above.

areas and lowest in western rural areas; the OMIaRD project, however, was not designed to meet statistical significance criteria.

Interestingly, material from the focus groups indicates that it is especially occasional organic consumers who refer to frequent users as (primarily) well-situated middle and high income families, or middle or upper class individuals. Regular consumers are also keen to point out that those on lower incomes, such as students or single mothers, use organic products, implying that organic consumption is more directly related to attitude than to disposable income. Other relevant influences on the frequency of consumption are situation-specific, including buying for children or invited guests, or in response to special dietary or health problems. Occasional consumers from some EU countries participating in the group sessions also characterised organic consumers as those intent on differentiating themselves from the mainstream in terms of status or style. Statements show that negative images associated with organic consumption persist, and these may have a subliminal influence on consumer attitudes and purchasing intentions.

The typical non-consumer is characterised by two main features in the focus group analysis: lack of interest (relating to the particular consciousness which is often associated with organic consumption), and lack of financial resources. Both of these aspects also emerge as factors significantly reducing organic household share in the panel data analysis. There is a suspicion amongst both regular and occasional consumers that low levels of interest amongst those who do not consume organic food arise from lack of food culture or knowledge of food preparation and lack of concern for health or ethical production issues. Income constraints on buying organic are highlighted as being particularly evident amongst students and the elderly who are unable to afford organic food – and it was agreed, even by regular consumers, that organic foods are expensive. Besides higher prices, OMIaRD also found that lack of availability can be an important reason for not buying organic: some consumers feel that organic food requires special purchasing effort and that this is inconvenient and time-consuming. Since shopping experience is as relevant in the organic context as it is in the case of conventional foods, more is said on this aspect of consumer behaviour in the next sub-section.

In all countries participating, the results of the laddering exercise indicate particular consensus amongst both regular and occasional organic consumers about the health-related benefits of eating organic. Interestingly, occasional consumers also appear to be satisfied with conventional products in the sense that they trust that they too are healthy. This is particularly so in relation to buying products of local, regional or national origin, such that the need to search for organic alternatives is reduced.

### **6.3 Supply chain structures**

Both the DARCOF panel data and the OMIaRD findings show that most organic foods are sold through supermarkets. Across Europe, the majority of organic transactions take place in large multiple stores, with discounters, direct sales, specialist stores and other outlets accounting for the remainder. Specialist organic shops, and in particular small health food shops, appear to be declining in importance in almost all European countries: evidence from OMIaRD indicates that only in a subset of countries did a minority of consumers express a preference for shopping in these outlets.

According to the DARCOF analysis given in Section 3, interesting differences emerge when the situation is examined with regard to both product and user types. In the latter context, it is particularly notable (though perhaps not surprising) that the propensity to purchase organic through direct sales channels (for example, at markets or the farm gate) appears to be highest amongst heavy users of organic foods. Similarly, OMIaRD found that the organic specialist shop is also mainly preferred by regular consumers. It appears that preference for organic shops is mainly driven by 'self-transcending' motivations, 'soft' store attributes, such as atmosphere, and interactions with sales staff, pointing to a more 'pleasure-seeking' approach to the shopping experience.

Although supermarkets are clearly the most preferred sales channel, they are also the most rejected point of purchase in nearly all countries, according to OMIaRD. On the one hand, a clear cognitive picture based on consumer responses throughout Europe suggests that supermarket convenience factors such as product assortment and good location are important to consumers in terms of a comfortable and easy shopping experience. On the other, supermarkets are regarded as unpleasant because they are chaotic and crowded, too big and poorly staffed. Criticism also arises in relation to their contribution to sustainability, and their perceived low levels of support for local farmers and organic production. Consumers do not trust supermarkets to sell organic foods that are healthy and of good quality, and the presence of mass-produced goods evokes a particular negative and unsafe image. Again, health-related attributes which underpin the choice of buying organic, emerge as principal reasons for mistrust.

This situation does not apply across all EU countries however and, by way of contrast, the panel data from Denmark suggests that, although consumer confidence in food products is stronger when buying from a specialist store or through direct channels, the sales and distribution structures of multiples have not reduced consumer trust too severely in the past. This is so for the majority of organic consumers who do much of their shopping in supermarkets, and in particular for those classified as light and medium users of organic foods. Evidence from OMIaRD also suggests that choice of shopping location is not very relevant for a large proportion of consumers who declare that they would shop in any outlet provided it sells organic products. Clearly, the role of overall shopping environment and product presentation in organic purchasing behaviour is not a straightforward one.

#### **6.4 Consumer product knowledge**

Mention has already been made earlier of the positive association between organic product knowledge and levels of organic consumption. This is evident from both the analysis of the panel data and the findings from OMIaRD laddering interviews, in which consumers were divided into low, medium and high knowledge groups in order to cross-reference the level of 'expertise' (consumer product knowledge) with self-reported frequency of purchase of organic foods. The overall results of the exercise show that, in general terms, organic product knowledge remains relatively low.

Although superior organic product knowledge appears to be associated with better overall levels of education and is more evident in families with children, it does not appear to be influenced significantly by income level or gender in the OMIaRD analysis. Age also emerges as an influential factor since a higher proportion of both younger and older people were found in the low knowledge groups. The results of the

exercise are not conclusive, however, and there is also some indication that there are significant, and interesting, differences between EU countries. This highlights the need for further exploration of knowledge-related food issues in relation to, for example, organic labelling, consumer trust and perceptions of risk.

The results of the panel analysis show that labelling is a particularly important aspect of organic product knowledge. In the absence of the type of direct personal contact available at farm shops or specialist organic outlets, it is the only means by which consumers are able to differentiate between organic and conventional foods. Particularly in the supermarket situation, organic labelling enables this distinction to be made: it ensures authenticity, allows freedom of choice according to the quality attributes that consumers seek and, most importantly, it increases consumer trust in food safety.

In this respect, the focus group analysis indicates that consumers are not wholly confident in organic certification schemes and other standardised information, and that this lack of trust correlates with poor levels of product knowledge. The situation is not clear-cut, however: although the DARCOF panel data reveals considerable trust in the Danish organic label, which is well-known and well-understood in Denmark, respondents expressed rather less confidence in overseas labelling. This link with origin is significant, in that OMIaRD also found that for regular consumers in some EU countries, local origin is, in itself, a sufficient reason to trust that organic products are safe. Although the reality may be somewhat different, the perception that local or regional products arise from smaller scale processes and low input systems, where production activities are more sustainable and undertaken with care, is directly linked with food safety concerns. It has also been shown to be a powerful marketing tool in the origin-labelling context.<sup>32</sup>

Levels of knowledge relating to organic farming standards and the 'rules' and regulations of organic processes vary considerably across Europe, according to the OMIaRD results. In some countries, knowledge of the actual concept is still quite vague, whilst in others the relationship between reduced chemical use and organic production appears to be better understood. Most often, consumers appear to recognise the particular link between decreased pesticide/fertiliser use and the production of foods which are healthier and more environmentally friendly. Surprisingly, the panel data analysis found little difference in levels of knowledge about organic label regulations, between consumers and non-consumers, although there is some indication that this result may be due to the testing procedure used during analysis – certainly, differences in this context between heavy users, other users and non-users would not be unexpected from the purely intuitive point of view. Interestingly, the data also suggests that organic regulations may be perceived by consumers as ensuring better overall food safety, even in relation to risks that are not directly included in the rules. This finding reflects the public good attributes of organic foods summarised earlier in this section (and in full in Section 3.5), and the perception of these in terms of generally enhanced quality and safety effects.

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<sup>32</sup> See the major results from the DOLPHINS project, <http://www.origin-food.org/>.

## **7 CONCLUSIONS AND ISSUES FOR DISCUSSION FOR THE QLIF INTEGRATED PROJECT**

### **7.1 Highlights of the review**

One prominent issue emerging from this review and reanalysis of consumer attitudes towards quality and safety of organic food is the fact that they are complex, unstable, and embedded in a wide range of issues linking food to health, environment, ethics and identity. The meanings of 'natural', 'pure', 'traditional' and 'authentic' for consumers and food specialists need to be examined carefully and reassessed, particularly with regard to technical development and policy innovation. Organic products serve a wide range of functions, and consumer expectations of them are high, although not always in a conventional sense (for example, they may be suspicious of flawless presentation of products, but they do want taste intensity, and reassurance about production, processing and distribution systems). Whilst there are geographical differences, these are not particularly significant from the point of view of QLIF; however, location of production does seem to play some role in terms of proximity to consumption, promoting trust, perceptions of freshness and traditional quality, and it can also serve to improve local economic self-reliance (Midmore *et al.* 2004).

Another major theme concerns the segmentation of organic consumers into two main types: regular, occasional; heavy, medium, light and non-users. There is some ambiguity about the implications of this issue, as well. Core organic consumers have commitment to the extent that organic products represent the quality and safety characteristics that they seek. They have also integrated social concern for the environment (and sometimes even broader ethical issues) into their purchasing behaviour, and appear to display, at least to a degree, missionary zeal in wishing to extend organic consumption, and hence organic production, and its presumed environmental benefits. Such market expansion, however, will not be achieved without an increase in other organic consumers (described, for example, as 'new' organic consumers in the French context); this group appears to be more price- and convenience-sensitive, and thus market expansion may rely on achieving scale economies in distribution and greater levels of processing; in effect, shifting at least the relative emphasis into more profit-oriented supply chains.

These insights give strong anchors (taste, freshness, appearance, healthiness and purity, environmental concerns) for development of protocols for further, more detailed examination of quality and safety issues in the new round of focus groups in SWP1.1.2, and the consumer-biographical interviews which will form the basis of SWP1.2.2. There are also issues of wider significance for the QLIF project as a whole. Firstly, for arable and livestock experimental work, it is important to take improved experiential qualities into account, whilst at the same time recognising that uniformity and high levels of processing and packaging are regarded by consumers of organic products with a significant degree of suspicion. There is also merit in trying to orient technical developments so that they can be disseminated to small producers supplying local niche markets, for the rural development impact that might have, but also in terms of gaining consumer trust, shortening distribution chains, and providing generalised environmental benefits in terms of decreased pollution. Issues raised here can be tested in the consumer experiments which will be conducted later on in the QLIF project.

As far as food safety issues are concerned, standards and certification seem to fall short in terms of consumer reassurance, at least for the uncommitted group. Clearly, there is a need to develop certain aspects of the food chain to meet general food safety regulations and best practice within an organic standards framework. The life sciences components of QLIF will need to interact with the standards bodies so as to inform the development of their certifying frameworks, and also to work in ways which make communication of assurance about the imbued standards to anxious and mistrustful consumers easier, and more effective.

## **7.2 Issues for discussion**

Although the Technical Annexe provides a coherent framework for research progress, the conventional wisdom on which it is based faces some quite clear challenges as a result of the analysis contained in this briefing document. This final section raises some deliberately provocative questions for discussion which may help to reappraise the underlying concepts of QLIF, and provide a basis for modification of future workpackages.

- *Is the complexity of consumer attitudes irreducible?* For a significant fraction of consumers of the products, organic *means* quality, and attempts to improve it actually undermine, or 'conventionalise' the underlying production frameworks (Hall and Mogorody 2001). This tension may block the effectiveness of traditional logical, deductive analysis, and may consequently suggest a need for alternative investigative strategies.
- *Should we let consumers continue to believe that organic products are inherently safe?* This raises significant issues for socially-responsible science: is it better to have happy but ignorant consumers or should they be more concerned but better-informed? Research which questions these beliefs may challenge the basis on which separate demand exists for organic products at premium prices. As science can never be value-free, examining the quality and safety of organic foods in a conventional perspective (which the underlying philosophy has always opposed) may damage their inherent appeal. Might it be better to repackage QLIF research as 'extending safety and quality assurance across a wider range of distribution channels'?
- *Could technical and standards development be oriented towards short, local supply chains?* In earlier discussion we note that technical and standards improvements should take into account the requirements of short supply chains. Perhaps further action could encourage an in-built bias in their favour: for example, alongside degrees of farm self-sufficiency in production, require maximum food miles in processing and distribution; or the development of safety and quality enhancement regimes which are only appropriate to small-scale enterprises, even if this is against prevailing market trends. While there appears to be some softening of multiple retailers' policies towards central sourcing and ubiquitous product ranges to accommodate consumer interest in local products, is it a ploy to gain competitive advantage rather than a genuine shift in bargaining power to small-scale producers?
- *How can the divergent concerns of 'old' and 'new' organic consumers be addressed at the same time?* While there is clearly overlap between these market segments there are also obvious dissonances: what turns 'old'

consumers on can be a turn-off for 'new' consumers, and vice-versa. As a result, there is a danger that any median strategy might alienate both groups. There may be room for division of the brand into pragmatic and fundamentalist variants ('organic-pure' and 'organic-lite'), although this is also risky; can different brand characteristics be promoted to the two segments without overall separation?

- *How does improved consumer information affect 'new' and 'old' consumers?*  
An increasingly high profile element of national Organic Action Plans (and now the European variant in preparation: see Dabbert 2001 and European Commission 2004) is improved consumer information through promotional campaigns. Does increased knowledge of the framework of organic production deepen commitment to consumption of organic products (implicit in the policy) or is deep commitment an incentive to find out more? Greater interest in and concern about processing and distribution issues may destabilise the cherished, and possibly nostalgic, image that motivates some consumers to buy organic. Also, Organic Action Plans focus simply on increasing 'cognition' of organic foods, using purely informational campaigns which have not so far been particularly successful in increasing demand. Therefore, is there a the need to build experience-based campaigns (tasting organic products, organising farm open days), to appeal to affective dimension of consumer product knowledge?



## REFERENCES

- Aakkula J., J Peltola, R. Maijala and J. Siikamäki (2004): Consumer attitudes, underlying perceptions and actions associated with food quality and safety. In press.
- Andersen, L.M. (2002): Consumer evaluation of environmental and animal welfare labelling: An econometric analysis on panel data using mixed multinomial logit. Working paper no.6, available at [www.akf.dk/organicfoods](http://www.akf.dk/organicfoods).
- Barjolle, D. and B. Sylvander (2001): Some factors of success for 'origin labelled products' in agri-food supply chains in Europe: Market, internal resources and institutions. In: Sylvander B., D. Barjolle and F. Arfini (eds.), The socio-economics of origin labelled products in agrifood supply chains: spatial, institutional and coordination aspects. INRA-Economica,.
- Bredahl, L. (1998): Consumers' cognitions with regard to genetically modified foods – results of a qualitative study in four countries. Mapp, The Aarhus School of Business, working paper 59.
- Bredahl, L., (2003): Cue utilisation and quality perception with regard to branded beef. Food Quality and Preference, 15, 65-75.
- Brennan, C. S and V. Kuri (2002): Relationship between sensory attributes, hidden attributes and price in influencing consumer perception of organic foods. Paper presented at the COR conference, March, 2002, Aberystwyth.
- Brunso, K., T.A. Fjord, and K.G Grunert (2002): Consumers' food choice and quality perception. Mapp, The Aarhus School of Business, working paper 77.
- Dabbert, S., N.H. Lampkin and R. Zanolli (2001): Elements of a European Action Plan for organic farming. In: Proceedings of the European Conference "Organic Food and Farming", Copenhagen (DK), 10-11 May 2001.
- Fotopoulos, C., A. Krystallis and M. Ness (2003): Wine produced by organic grapes in Greece: using means-end chains analysis to reveal organic buyers' purchasing motives in comparison to the non buyers. Food Quality and Preference, 14, 549-566.
- Gambelli, D., S. Naspetti and D. Vairo (2003): Why buying organic meat and milk? A qualitative study on the Italian market. 1st SAFO workshop ("Socio-Economic Aspects of Animal Health and Food Safety in Organic Farming Systems", Florence - Italy, September 2003).
- Glaser, B. and A.L. Strauss (1967): The discovery of grounded theory: strategies for qualitative research, New York: Aldine de Gruyter.
- Greenbaun, T.L. (1998): The Handbook of Focus Group Research. 2nd edn., Thousand Oaks: Sage.
- Grunert, K.G., L. Bredahl and K. Brunso (2004): Consumer perception of meat quality and implications for product development in the meat sector - a review. Meat Science, 66, 259-272.
- Hall, A. and V. Mogyoroddy (2001): Organic farmers in Ontario: an examination of the conventionalization argument. Sociologia Ruralis, 41(4), 399-322.
- Hamm, U., F. Gronefeld, D. Halpin, N. Kristensen, T. Nielsen, M. Bruselius-Jensen, P. Scheperlen-Bøgh, M. Beckie, C. Foster, P. Midmore, and S. Padel (2002): The organic food market and marketing initiatives in Europe: a preliminary analysis, Institute of Rural Studies, University of Wales, UK.
- Midmore, P., C. Foster and M. Schermer (eds.) (2004): Organic producer initiatives and rural development: four European case studies. Organic Marketing Initiatives and Rural Development, Volume 3, University of Wales Aberystwyth (School of Management and Business).
- Miele, M. and V. Parisi (2003): Consumer concerns about animal welfare and food choice – Report on focus groups Italy, University of Pisa, 47 pp.
- Miele, M. and V. Parisi (2001): L'etica del mangiare. Il valore e le preoccupazione dei consumatori per il benessere animale negli allevamenti: un'applicazione dell'analisi means-end chain", Rivista di Economia agraria, 56 (1).
- Morgan, K. and J. Murdoch (2000): Organic vs. conventional agriculture: Knowledge, power and innovation in the food chain. *Geoforum*, 31: 159-173.
- Naspetti, S. (2001): L'analisi motivazionale nel marketing ecologico: il caso dei prodotti biologici. PhD Thesis, University of Ancona, Ancona.

*Consumer attitudes to quality and safety of organic and low input foods*

- Reynolds, T.J., and J. Gutman (1988): Laddering theory, method, analysis and interpretation. *Journal of Advertising Research*, 28 (1), 11-31.
- Torjusen, H., L. Sangstad, K. O'Doherty Jensen and U. Kjærnes (2004): European consumers' conceptions of organic food: a review of available research. Professional report no. 4-2004, Oslo: National Institute for Consumer Research.
- Torjusen, H., Lieblein, G., Wandel, M., Francis, C.A., (2001). "Food system orientation and quality perception among consumers and producers of organic food in Hedmark county, Norway", *Food Quality and Preference*, 12, p.207-216.
- Vergunst, P. (2001): The embeddedness of local food systems. Urban Areas – Rural Areas and Recycling. The Organic Way Forward? NJF-seminar No. 327. Copenhagen, Denmark: Royal Veterinary and Agricultural University.
- Weatherell, C., A. Tregear, J. Allinson (2003): In search of the concerned consumer: UK public perceptions of food, farming and buying local. *Journal of Rural Studies*, 19:233-244.
- Zanoli, R. (ed.) (2004): The European consumer and organic food, Organic Marketing Initiatives and Rural Development, Volume 4, University of Wales Aberystwyth (School of Management and Business).
- Zanoli, R. and S. Naspetti (2002): Consumer motivations in the purchase of organic food: a means-end approach, *British Food Journal*, 104 (8), 643-653.

## APPENDIX A: ANNOTATED BIBLIOGRAPHY

### Key references

- Bähr, M., M. Botschen, H. Laberenz, S. Naspetti, E. Thelen and R. Zanolì (2004): The European consumer and organic food. OMIaRD Series Volume 4, Aberystwyth: School of management and Business (University of Wales).
- Tregear, A. (2002): Link between Origin Labelled Products and consumers and citizens. DOLPHINS WP4 Final Report, Newcastle: University of Newcastle.
- Torjusen, H., L. Sangstad, K. O'Doherty Jensen and U. Kjærnes (2004): European consumers' conceptions of organic food: a review of available research. Professional report no. 4-2004, Oslo: National Institute for Consumer Research
- Zanolì, M., D. Vairo and P. Midmore, (2001): Literature review of existing consumer-related studies concerning organic food in Europe. OMIaRD Deliverable D1, Aberystwyth: School of Management and Business (University of Wales).
- Zanolì, R., S. Naspetti, D. Vario, E. Thelen, H. Laberenz and M. Bähr (2004): Potential scope for improved marketing: considering consumer expectations with regard to organic and regional food. In: Schmid, O., J. Sanders, and P. Midmore (eds.) Organic Marketing Initiatives and Rural Development, Organic Marketing Initiatives and Rural Development series: Volume 7, University of Wales, Aberystwyth.

AUSTRIA	
Agrarmarkt Austria (AMA): Rollierende Agrarmarkt Analyse (RollAMA, Rolling Agricultural Market Analysis).	<i>Consumer panel of 1,400 households in Austria, providing data on purchasing behaviour, including product types (organic and conventional), market size and shares; average prices, sources of supply and sociodemographic characteristics, such as income and region.</i>
Agrarmarkt Austria (AMA) (2002): Ernährung und Einkaufsverhalten österreichischer Haushalte (Consumption and buying behaviour of Austrian private households), RollAMA.	<i>Analysis of buying motives of 400 households participating in the RollAMA panel between 1999-2001.</i>
Agrarmarkt Austria (AMA) (2004): Entwicklung der Bio-Anteile im LEH (Development of organic product shares in retail chains), RollAMA.	<i>The value and volume of organic product shares, based on RollAMA panel data between 2000-2003. See also: Fleischmarkt und Konsumenteneinstellungen gegenüber Fleisch (Meat market and consumer attitudes on meat); Analyse des Eiereinkaufs (Egg market analysis).</i>
Freyer, B., M. Eder, W. Schneeberger, I. Darnhofer, L. Kirner, T. Lindenthal and W. Zollitsch, (2001): Organic farming in Austria – development and outlook. Agrarwirtschaft, 50(7), 400-409.	<i>This paper focuses on the development of organic farming in Austria, and the prospects for the Austrian organic market. It includes the findings of a representative survey of consumer attitudes to organic food (R, Hasslinger: Austrian Gallup-Institute, 2001, Vienna).</i>

*Consumer attitudes to quality and safety of organic and low input foods*

<i>AUSTRIA (continued)</i>	
Karmasin, H., (1998): Kaufmotive bei Bio-Produkten (Motives for buying organic products), Institut für Motivforschung, Wien.	<i>Qualitative personal interviews, using scale technique, with 100 households in both urban (Vienna) and rural (Lower) Austria, with emphasis on the motives for buying organic products and the barriers against doing so.</i>
Market-Institut für Markt-, Meinungs- und Mediaforschung, (2003): Umfrage BR550, Image der Salzburger Landwirte (Image of Salzburg's farmers), Linz.	<i>Telephone survey (CATI-interviews) of a representative sample of 600 individuals in Salzburg, designed to explore the attitudes of the population of Salzburg towards farming and the agricultural sector, including organic production.</i>
Priewasser, R., (2002): Umweltbewusstsein beim Einkauf nach 10 Jahren staatliches Umweltzeichen in Österreich. Ergebnisse einer Konsumentenbefragung in Oberösterreich (Consumers' environmental awareness in purchasing, with reference to 10 Years of ecolabelling in Austria. Results of consumer interviews in Upper Austria). <i>Wirtschaftspolitische Blätter</i> , 2, 202-213.	<i>Empirical investigation into the ecological orientation of consumers in purchasing behaviour, with particular reference to perceptions of environmentally friendly products; consumer acceptance; and the effectiveness of eco-labelling (not organic labelling).</i>
Riemenschneider, E., (2003): Ökologieorientiertes Marketing und Konsumentenverhalten im Bezug auf Bio-Lebensmittel im Handel (Ecologically oriented marketing and consumer behaviour with reference to organic food). Diploma thesis, Instiut für Betriebliche und Regionale Umweltwirtschaft, Johannes Kepler Universität, Linz.	<i>Study of organic product marketing in Austrian retail chains, including theoretical aspects of consumer behaviour and marketing policy, and a case study of the SPAR organic brand, Natur*pur. Special focus on organic retail labels and innovative brand concepts.</i>

DENMARK	
Beckmann, S., S. Brokmose and R.L. Lind, (2001): Danske forbrugere og økologiske fødevarer (Danish consumers and organic foods), Copenhagen Business School Press, Copenhagen.	<i>Consumer study based on an economic psychology approach and value-attitude-behaviour-hierarchy model, including questionnaire survey of 1,500 respondents in Denmark; follow-up survey; and qualitative data drawn from 3 focus group interviews in 2000.</i>
Økologisk Landsforening, (2002): Holdninger til økologi (Attitudes towards organic foods), Økologisk Landsforening, Aarhus.	<i>Qualitative data from three focus group interviews (selected segments) undertaken in Denmark in 2002, to gather information on consumer attitudes, values, knowledge and purchasing behaviour, including motives for and barriers to purchase, and organic labelling.</i>
Thøgersen, J. and F. Ölander, (2003): The Interaction between Environmental Norms and Behaviour: A Panel Study of Organic Food Consumption, Aarhus School of Business, Aarhus (Draft).	<i>Questionnaire survey and panel analysis of 2,400 Danish respondents, interviewed up to three times between 1998-2000, to examine the dynamic interaction between values, attitudes and stated purchasing behaviour, using factor analysis and structural equation modelling.</i>
Andersen, L.M., (2002): Consumer Evaluation of Environmental and Animal Welfare Labelling: An Econometric Analysis on Panel Data using Mixed Multinomial Logit, AKF, Copenhagen.	<i>This Danish study uses random utility and mixed logit modelling analysis to estimate the marginal willingness to pay for eggs (including organic) carrying different labels, using household panel data from June 1999-June 2000 (GfK panel with purchase observations).</i>
Hansen, L.G., (2004): Organic Crowding Out? A Study of Danish Organic Food Demand, AKF, Copenhagen.	<i>Analysis of household panel data (GfK panel with purchase observations), 1997-2000, using utility theory and an econometric, demand modelling approach (Almost Ideal Demand System), with emphasis on 'separability' and the price elasticity of demand for organic foods.</i>
Wier, M., L.M. Andersen and K. Millock, (2004): Information Provision, Consumer Perceptions and Values – the Case of Organic Foods. Edward Elgar Publications.	<i>Analysis of household panel data (GfK panel with purchase observations), 1997-2001, using regression and econometric demand modelling, and qualitative data provided by panel members; emphasis on perceptions, trust, valued product attributes and willingness to pay.</i>
Millock, K., M. Wier and L.M. Andersen, (2004): Consumer demand for organic foods – attitudes, values and purchasing behaviour. European Association of Environmental and Resource Economists Conference, Budapest, June 15-28 2004.	<i>Analysis of household panel data (GfK panel with purchase observations), 1997-2001, and qualitative data provided by panel members, using random utility and multinomial logit modelling approaches to examine perceptions, use/non-use values and willingness to pay.</i>
Økologisk Landsforening, (2003): Forbrugernotat, 2003 (Memo on consumers, 2003) Økologisk Landsforening, Aarhus.	<i>Review of recent Danish research, combining survey, interview and questionnaire findings from various studies, with GfK market survey data; emphasis on market development, lifestyle and socio-demographic characteristics of consumers, and purchasing motives and barriers.</i>

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FRANCE	
CTIFL, (2002): Les fruits et légumes biologiques: Perceptions et attentes des consommateurs (Organic fruit and vegetables: Consumer perceptions and attitudes), CTIFL.	<i>A national study of consumer behaviour with regard to organic fruits and vegetables, based on panel (SECODIP) data drawn from 2,000-4,000 representative households; face to face interviews with 3,016 individuals (2001); and a focus group session with organic consumers.</i>
François M, Persillet V. and B. Sylvander, (2002): Analyse des paniers des consommateurs en produits biologiques en Ile de France et Pays de Loire (Analysis of consumer baskets of organic goods in Ile de France and Pays de Loire), Inra/Gret (National Research Programme).	<i>A regional study of actual (compared with stated) purchasing behaviour, based on the analysis of 600 baskets of goods in each of two regions. Enquiries were made as the buyers of organic products left supermarkets, markets and specialist shops (one third of enquiries in each case).</i>
CSA (2002): Les produits biologiques : marché et perspectives (Biological products: market and prospects. Collection Dynamique des Marchés. Eurostaf, Agence Bio.	<i>Results of a quantitative national survey of 1000 individuals (representative of the French population), with emphasis on recent consumers of organic products and trends in consumer perceptions. Some similar questions to the national research programme, INRA/GRET.</i>
Barbieux, A., (2002): Le bio: simple alternative alimentaire ou choix de vie? (Le bio: simple alternative foods or a way of life?), Faculté des Sciences Agronomiques de Gembloux (mémoire DEA).	<i>Student dissertation reporting on 36 qualitative in depth interviews of organic consumers buying organic products in specialised shops, showing links between consumption and values and opinions beyond food issues (ecology, health, etc.) for some consumers.</i>
Sylab–Ypsis/Sigil, (2003): Représentations globales des produits bio et des produits laitiers biologiques (Global images of organic products and organic dairy products) Working paper, CIDIL.	<i>This study of the National French Milk Office to design a promotional plan to increase organic milk and milk products consumption was based on 7 focus groups 240 individual interview, and confirms links between organic and “natural” products, taste and “tradition” (to link with “farm milk” and presence of cream) for consumers of organic milk products.</i>
CSA, (2003): Baromètre de consommation et de perception des produits biologiques en France (Barometer of consumption and of the perception of organic products in France), Agence Bio.	<i>First results of an annual qualitative national survey (“barometer”) involving 1000 individuals (representative of the French population), documenting evocations of organic products, rates of consumer loyalty and consumption trends.</i>
Alessandrin, A, C. Couallié, and V. Persillet, (2003): Caractéristiques de la consommation de produits issus de l’agriculture biologique en Ile de France et Bourgogne (Characteristics of the consumption of products from organic agriculture in Ile de France and Bourgogne). OMIaRD Internal working paper, INRA, Le Mans.	<i>Regional study of the motives for buying organic products with special emphasis on meat. Based on analysis of qualitative information drawn from six focus groups (three sessions each with regular and occasional organic consumers) in each of the two regions. Part of OMIaRD.</i>

<i>FRANCE (continued)</i>	
Syrieix, L, A. Alessandrin, C. Couallié and V. Persillet, (2003): Caractéristiques de la consommation de produits issus de l'agriculture biologique dans les régions Pays de Loire, Languedoc Roussillon, Ile de France, Bourgogne et Alsace- Lorraine (Characteristics of the consumption of products from organic agriculture in the regions listed), OMIaRD Internal working paper, INRA, Le Mans.	<i>Regional study of consumer motives for buying organic products based on data analysis of 100 interviews with individual consumers in five French regions, using laddering techniques and means-end chain modelling to determine consumer values. Part of the OMIaRD project.</i>
François, M., V. Persillet, A. Alessandrin and B. Sylvander, (2003): Analyse des «itinéraires de consommation» des consommateurs de produits biologiques en Ile de France et Pays de Loire (Analysis of the «consumption routes» of organic consumers in Ile de France and Pays de Loire), INRA/GRET.	<i>Regional study of consumer behaviour using qualitative information from 30 in-depth interviews with organic consumers in each region, and semiotic analysis (in 10 cases) to explain how and why consumers begin to buy organic and continue to do so.</i>
François, M, and B. Sylvander, (2003): Consommation des produits biologiques: Fidélisation des consommateurs et caractéristiques des marchés (Consumption of organic products: consumer loyalty and market characteristics), INRA/GRET.	<i>National study of consumer behaviour based on data analysis of 3 x 2,200 face to face enquiries with recent consumers of organic products (representative sample of the French population), with emphasis on the relationship between consumer loyalty and market stability.</i>

GERMANY	
Richter, T. (2002): Konzept zur Bewertung der Präsentation von Bio-Produkten in verschiedenen Einkaufsstätten, Bericht zum Projekt PRÄVOBIO im Rahmen des Bundesprogramms Ökologischer Landbau (Concepts of evaluation for point of sale presentation of organic products in various food retailers, Report of PRÄVOBIO project, in the context of the Bundesprogramm Ökologischer Landbau), FIBL, Synergie, Ecozept GbR, Frick, Bad Wildbad: Bundesministerium für Landwirtschaft und Ernährung (BLE), Bonn.	<i>Analysis of point of sale marketing for organic products using literature review, focus group discussions with consumers and salesmen, interviews with retailers, and workshops with practitioners/advisors to generate performance ratings according to channel of distribution.</i>
ZMP/CMA (2002): Wie viel Bio wollen die Deutschen? (How much organic do Germans demand?), ZMP/ CMA, Bonn.	<i>Representative, multi-level consumer survey using material from 1,230 interviews with consumers to investigate potential barriers to purchasing organic products, and the future development of the market in terms of organic market share.</i>
Heinze, H.B., (2002): BIO Food – Branchenreport der BBE, Köln.	<i>This report aims to establish a broad basis for an evaluation of the organic market and the factors influencing its further development. Aspects of the entire supply chain are analysed, including producer, processor and retailer activities, marketing and consumer demand.</i>
Michels, P., A. Schmanke und E. Linnert, (2003): Bio-Frische im LEH: Fakten zum Verbraucherverhalten (Fresh organic products in food retailing: facts on consumer behaviour), ZMP/ CMA, Bonn.	<i>Market report on the general development of the organic food sector, using panel data from the "Gesellschaft für Konsumforschung" (GfK), AC Nielsen and the ZMP, and frequency of purchase target group analysis to evaluate buying behaviour in organic food retailing.</i>
Schäfer, M., (2003): Kundenvielfalt erfordert Marktvielfalt – eine Untersuchung der Potenziale von vier verschiedenen Bio-Einkaufsformen (Diversity of customers requires diversity of markets – a study of the potential of four different shopping facilities for organic food), Zeitschrift für Agrarpolitik und Landwirtschaft, Berichte über Landwirtschaft, 81(1): 103-127.	<i>Survey of the habits, motivations and attitudes of organic consumers at four different shopping facilities in the Berlin-Brandenburg region, with emphasis on their ability to attract new consumers, marketing strategies and the diffusion of ideas through education and extension.</i>
Spiller, A., M. Lüth and U. Enneking, (2003): Chancen und Potenziale von Öko-Lebensmitteln in der Außer-Haus-Verpflegung am Beispiel der Verzehrsgewohnheiten von Mensa- und Kantinenbesuchern (Opportunities and potentials for organic food in communal catering: eating habits of consumers in refectories and canteens). Final Report of Project 02OE549, in the context of the Bundesprogramm Ökologischer Landbau, Bundesministerium für Landwirtschaft und Ernährung (BLE), Bonn.	<i>Study of potential marketing strategies for the development of communal catering in cafeterias and canteens, based on expert interviews with six canteens and 600 computer-based interviews with guests in the refectories of Goettingen and Kassel, and the canteen of VW AG Wolfsburg.</i>

<i>GERMANY (continued)</i>	
Kolanoski, J., K. Weis, C. Zimmermann, A.M. Häring and B. Bichler, (2003): Verarbeitung und Vermarktung von ökologischem Schweinefleisch in Baden-Württemberg (Processing and marketing of organic pork in Baden-Württemberg), Landinfo Baden-Württemberg (4/2003).	<i>Study of the quality requirements of organic pork and processed pork products, based on interviews with consumers and processors in the greater Stuttgart area, including aspects of food safety, and processing, packaging and transportation requirements.</i>
Bruhn, M., and R. von Alvensleben, (2003): Die Entwicklung der Nachfrage nach Bioprodukten unter besonderer Berücksichtigung des Nitrofen-Geschehens und der Einführung des staatlichen Biosiegels (The development of demand for organic products with special attention to the nitrofen problem and the introduction of the national ecolabel for organic products), Institut für Agrarökonomie, Lehrstuhl für Agrarmarketing, Universität Kiel, Agrar- und Ernährungswissenschaftliche Fakultät, Kiel.	<i>Analysis of the demand for organic products with special reference to the nitrofen scandal, using information from interviews with 303 consumers, and to the organic product label 'Biozeichen', based on consumer interviews combined with conjoint analysis.</i>
Schultz, I. B. Birzle-Harder, C. Empacher, S. Schubert, I. Stieß, (2003): Bio+pro – Zielgruppen für den Bio-Lebensmittelmarkt: Die Marktchancen von Bio-Produkten verbessern, (Bio+pro – Target groups for the organic food market: improvements in organic trade), ISOE, Frankfurt/Main.	<i>Study of purchasing patterns and consumer preferences using two stage qualitative and quantitative methodology (the ISOE institute social-ecological lifestyle approach), including 2,920 consumer interviews, to identify demand factors/target groups in the organic market.</i>
Emnid Institut, (2003): Sind Bio-Lebensmittel „in“? Oder „nur“ teuer? (Is organic food „in“? Or „just“ expensive?), Bundesverbraucherministerium.	<i>National survey of 1,000 consumers, over a one year period, by the EMNID Institute, on behalf of the German Ministry of Consumer Protection, Food and Agriculture, to pinpoint criteria for organic purchases, and determine changes in consumer attitudes over time.</i>
Zenner, S., B. Wirthgen and M. Altmann, (2004): Analyse des Verbraucherverhaltens beim Direkteinkauf dargestellt für die Befragungsregion Niedersachsen (Analysis of consumer behaviour towards direct purchase of food). Zeitschrift für Agrarpolitik und Landwirtschaft, Berichte über die Landwirtschaft, 82(1): 81-100, Bundesministerium für Verbraucherschutz, Ernährung und Landwirtschaft, Münster.	<i>Analysis of consumer attitudes towards the purchase of organic and conventional products directly from farmers, using findings from face-to-face interviews with 961 consumers to establish the most important dimensions of attitude and principal reasons for buying direct.</i>

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<i>ITALY</i>	
Gambelli, D., S. Naspetti and D. Vairo (forthcoming): Why are consumers buying organic meat and milk? A qualitative study of the Italian market, SAFO, Firenze.	<i>Qualitative survey of consumer perceptions, attitudes and motivations towards organic food, using 12 focus group discussions, soft laddering interviews with 104 consumers and scenario analysis, with specific focus on organic milk and meat in Italy. Part of the OMIaRD project.</i>
Naspetti, S. and R. Zanoli (2004): Do consumers care about where they buy organic products? A means-end study with evidence from Italian data. In: Marketing Trends for Organic Food in the 21st Century (G. Baourakis, ed.), MAICH, Greece.	<i>Partial results of a European study of consumer motivations and perceptions of organic food, using in-depth interviews with 100 Italian consumers, means-end theory and laddering to explore the cognitive structures of consumers regarding place of purchase.</i>
Zanoli, R., D. Gambelli and S. Naspetti (2004): Il posizionamento dei prodotti tipici e biologici di origine italiana: un'analisi su 5 paesi. (Positioning high quality products of Italian origin: an investigation in 5 countries), Rivista di Economia Agraria, (in press).	<i>Quali-quantitative study of trade and consumption of food products of certified Italian origin in Sweden, Denmark, USA, Canada and Japan, combining the Fishbein Index measurement of product positioning with analysis of consumer product knowledge using means-end chains.</i>
Zanoli, R. and S. Naspetti (forthcoming): Sviluppo e testing di messaggi pubblicitari per l'agricoltura biologica: il modello MECCAS in pratica (Development and testing of advertising messages: MECCAS Model), 2° Convegno Agricoltura biologica, Portici (NA).	<i>Study of advertising messages as the basis for a promotional campaign for a famous organic brand, using information from 60 laddering interviews, and the MECCAS model (Means-End Conceptualization of Components of an Advertising Strategy) to develop options for testing.</i>
Naspetti, S. and R. Zanoli (in preparation): La qualità dei prodotti agro-alimentari: un approccio olistico (Food quality: an holistic approach), SIDEA, Urbino workshop, Italy.	<i>Study of quality perception using a new approach which aims to overcome the semantic and conceptual difficulties that are common with the use of the word quality in food science. Links traditional concepts of quality to cognitive approaches and means-end modelling techniques.</i>
Naspetti, S. and R. Zanoli (in preparation): La percezione dei contrassegni di qualità nei prodotti biologici (Perception of quality signs in organic foods), SIDEA, Roma.	<i>Partial results of a European study (from OMIaRD) of consumer motivations and perceptions of organic food, using in-depth interviews with 100 respondents, laddering and means-end chains to explore the cognitive structures of consumers regarding quality signs and labels.</i>
Cicia, G., T Del Giudice and R. Scarpa (2002): Consumers' perception of quality in organic food: a random utility model under preference heterogeneity and choice correlation from rank-orderings. British Food Journal, 104(3/4/5): 200-213.	<i>Examination of preferences for qualitative and quantitative attributes of extra virgin olive oil, based on a questionnaire survey of 198 regular organic consumers in Naples, and allowing for preference heterogeneity by means of a random-parameter panel logit modelling approach.</i>

<i>ITALY (continued)</i>	
Corsi, A. and S. Novelli (2003): Measuring prices consumers are willing to pay for quality improvements: the case of organic beef meat, 83rd EAAE Seminar, "Food Quality Products in the Advent of the 21st Century: Production, Demand and Public Policy", Chania, Greece, September 2003.	<i>Regional study of willingness to pay with special reference to organic meat, based on data collected through a random telephone survey of 879 families in Piedmont Region of Italy during June-July 2001.</i>
Asciuto, A., F. Fiandaca, G. Guccione and G. Schifani (2003): A "discrete choice" model for the analysis of Overall Customer Satisfaction (OCS) in consuming organic food. The case study of specialized retail outlets in Palermo, 83rd EAAE Seminar, "Food Quality Products in the Advent of the 21st Century: Production, demand and Public Policy", Chania, Greece, September 2003.	<i>Study of the key determinants of overall customer satisfaction and the average profile of local organic consumers, based on a questionnaire survey of nearly 200 customers at four main organic food specialist shops in Palermo, and the use of discrete choice modelling techniques.</i>
Canavari, M., G. Nocella and R. Scarpa, (2003): Stated willingness-to-pay for environment friendly production of apples and peaches: web-based versus in person surveys, 83rd EAAE Seminar, "Food Quality Products in the Advent of the 21st Century: Production, Demand and Public Policy", Chania, Greece, September 2003.	<i>Analysis of willingness to pay for the elimination of the use of pesticides on fruit as well as a premium price for certified organically grown apples, based on a 1,312 consumer interviews (both on line and face-to-face) to elicit preferences, and logit modelling to estimate utility.</i>

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SWITZERLAND	
Richter, T. and J. Sanders, (2001): Swiss Organic Market 2000 – Continuation of the market growth.*	<i>Organic market trends in Switzerland in relation to organic brands, for example, the Co-op retail label 'Naturaplan', and consumer recognition. No information on methodology provided.</i>
Richter, T. (2003): Country reports for Switzerland (Literature Review about consumer behaviour and attitudes relating to organic food. Internal paper within the OMIaRD project – EU QLK5-2000-01124. FiBL. Frick; Laddering interviews - Country report Switzerland. Internal paper within the OMIaRD project – EU QLK5-2000-01124. FiBL. Frick.)	<i>OMIaRD study of the Swiss organic food market, including growth in the number of organic consumers and knowledge of labelling schemes, based on a telephone survey of 1,000 respondents, conducted on behalf of Bio Suisse in 2002. Some information gaps identified.</i>
Kolibius, M., (2002): Online-Marketing für Bio-Produkte (Online-Marketing for organic products), PhD thesis, University St. Gallen.	<i>This study is focused on developments in the consumption of organic products, according to category of consumer and including motives for purchase, in relation to on-line marketing; based on a literature review.</i>
Engels, S. and C. Poncini, (2003): Die Akzeptanz eines Nachhaltigkeitslabels seitens Konsumenten, Experten und Produzenten (Consumer acceptance of sustainability labels), PhD thesis, University St. Gallen	<i>Study of sustainability and eco-labelling in relation to food produce, based on 233 consumer and expert surveys conducted in 2003 in German-speaking Switzerland, and spread via mail and internet.</i>
Hempfling, G. and T. Richter, (2004): Entwicklung der Biomärkte in der Schweiz und Europa (The development of the market for organic products in Switzerland and Europe), Presentation paper, Frick, Switzerland.	<i>Paper based on Swiss Federal Statistical Office (SFSO) data and the OMIaRD project, confirming the high degree of trust in the 'Naturaplan' organic product label of Co-op retail and discussing various other aspects of organic retailing and consumption in Switzerland.</i>
Schmid, O., T. Richter and B. Lehmann, (2002): Biomarkt Schweiz auf grüner Welle (Organic market Switzerland on a green wave), Unimagazin 01/02 – Bulletin ETHZ 285.	<i>General review of the organic market situation in Switzerland, including attitudes to food safety, consumer trust and other issues relating to consumer perceptions. No methodological information provided.</i>
Richter, T. (2004): Mit Premium-Produkten Wechselkäufer gewinnen. (Convince occasional buyers through premium products). Ökologie & Landbau 131(03/04): 17-19.	<i>General aspects of the organic market situation in Switzerland, including per capita consumption and recent changes in consumer behaviour in terms of convenience shopping and consumer confidence in organic products. No methodological information provided.</i>
Sanders, J. and T. Richter, (2003): Impact of socio-demographic factors on consumption patterns and buying motives with respect to organic dairy products in Switzerland In: Socio-economic Aspects of Animal Health and Food Safety in Organic Farming Systems, Proceedings of the 1 <sup>st</sup> SAFO Workshop, Florence, 5-7 September 2003, 211-218.	<i>Paper based on the results of consumer surveys undertaken by the Swiss Federal Statistical Office (SFSO) in 2000 (3,642 households), the Swiss 'IHA Households Panel Plus' in 2002, and a qualitative consumer survey carried out within the OMIaRD project.</i>

\* Available at: [http://www.organic-europe.net/country\\_reports/switzerland/downloads/richter\\_2001\\_01.pdf](http://www.organic-europe.net/country_reports/switzerland/downloads/richter_2001_01.pdf).

<i>SWITZERLAND (continued)</i>	
Bio Suisse (2004): Facts and trends, 2004. Conference presentation, March 2004, Basel.	<i>Report of the current situation in organic labelling, including Co-op Naturaplan, Knospe (Bud) and M-Bio, based on a label survey conducted by the IHA in 2003.</i>
Richter, T., B. Babst, and E. Meili, E. (2002): Bio Weide-Beef – Fleisch mit hohem Kundennutzen (Brand Bio Weide-Beef – beef with high consumer benefit). Agrarforschung 9(10): 424-429.	<i>Study of branding and labelling in the organic meat sector, including Bio Weide-Beef (BWB) and Natura Beef, based on two consumer surveys (666 oral interviews; 320 written interviews) conducted for the Swiss retail chain, Migros.</i>

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<i>UNITED KINGDOM (Also includes recent journal articles)</i>	
Alvensleben, R. v (2001): Beliefs associated with food production methods. In: Frewer, L.J., E. Risvik and H. Schifferstein (eds.): Food, People and Society – A European Perspective of Consumer's Food Choices. Berlin; Heidelberg; New York: Springer-Verlag, 381-400.	<i>Study of organic, GM, free-range and functional foods based on a longitudinal survey of 2000 consumers (1989/94/99) to determine beliefs about food production methods in general and to rank the purchasing motives of respondents.</i>
Bocker, A. and C.H Hanf, (2000): Confidence lost and partially regained: consumer response to food scares. Journal of Economic Behaviour and Organization 43: 471- 485.	<i>An examination of the ways in which consumers regain confidence following food scares, including perceptions of hazard and the moral aspects of food safety, using Bayesian model of consumer trust. Applies to food safety in general not only in the case of acute food scares.</i>
Canavari, M., G.M. Bazzani, R. Spadoni and D. Regazzi (2002): Food safety and organic fruit demand in Italy: a survey. British Food Journal 104(3/4/5): 220-232.	<i>First phase of a study of consumer attitudes towards price, quantity and quality of organic apples, based on a questionnaire survey and Contingent Valuation methodology, in order to establish consumer willingness to pay for pesticide elimination and for a price premium.</i>
Chinnici, G., M. D'Amico, et al., (2002): A multivariate statistical analysis of the consumers of organic products. British Food Journal 104(3/4/5): 187-199.	<i>Study of the price/use relationship and consumer beliefs about the benefits of organic produce in order to differentiate consumer groups according to their motivations for eating organic, based on data from face-to-face, questionnaire survey results and factor (cluster) analysis.</i>
Cicia, G., T. Del Giudice, et al., (2002): Consumers' perception of quality in organic food. British Food Journal 104(3/4/5): 200-213.	<i>Analysis of consumers' perception of quality in organic food, based on questionnaire survey of regular consumers, rank ordering of product profiles and the use of random and fixed parameter logit models. Significant for segmentation studies in relation to quality preferences.</i>
Dibb, S., (2002): Consumers demand residue-free food. Pesticide News 58: 8-9.	<i>Study of consumer perceptions of pesticide risk, including the need for comparative risk assessment and consumer concerns about lack of control, based on questionnaire data.</i>
DuPuis, E.M., (2000): Not in my body: rBGH and the rise of organic milk. Agriculture and Human Values 17: 285-295.	<i>Examines the consumption of organic milk as a form of politics, with reference to the USA market, and develops the idea of a reflexive consumer who plays a proactive role in the development of the food system rather than just being the subject of it.</i>
Enticott, G., (2003): Risking the rural: nature, morality, and the consumption of unpasteurised milk. Journal of Rural Studies 19: 411-424.	<i>Explores the demand for safer food, the multiple identities of 'nature' as a safe haven, and the cultural and place specific concepts of organic food safety, and argues that food communities' may override the scientific view of risk because 'safety' is embedded in other social relations.</i>

<i>UNITED KINGDOM (continued)</i>	
Fillion, L. and S. Arazi, (2002): Does organic food taste better? A claim substantiation approach. <i>Nutrition and Food Science</i> 32(4): 153-157.	<i>Report of a study designed to determine if organic food tastes better, based on taste tests with trained panellists and sensory analysis.</i>
Greer, A., (2002): Policy networks and policy change in organic agriculture: A comparative analysis of the UK and Ireland. <i>Public Administration</i> 80(3): 453-473.	<i>This paper takes a comparative case study approach to organic agricultural policy in the UK and Ireland since the 1980s, with special emphasis on regulatory arrangements, and the role of the state and ideas in promoting policy change.</i>
Grunert, K., L. Bredahl, et al., (2004): Consumer perception of meat quality and the implications for product development in the meat sector – a review. <i>Meat Science</i> 66(2): 259-272.	<i>Study of consumer perceptions of meat quality at point of purchase, including organic meat, using the Total Food Quality Model (TFQM) which integrates means-ends chain and multi-attribute theory, and economics of information approaches.</i>
Grunert, K., T. Bech-Larsen, et al., (2000): Three issues in consumer quality perception and acceptance of dairy products. <i>International Dairy Journal</i> 10(8): 575-584.	<i>Study based on secondary data from five studies, including a questionnaire survey on organic foods in Denmark and Germany, to explore the quality perceptions of dairy products, including hedonic, health-related, convenience-related and process-related dimensions.</i>
Guthman, J., (2002): Commodified Meanings, Meaningful commodities: Re-thinking production-consumption links through the organic system of provision. <i>Sociologia Ruralis</i> 42(4): 38-199.	<i>Analysis of the links between production and consumption through systems of organic provision, with emphasis on the relationship between taste and quality and its implications for tensions in the political economy of organic food production.</i>
Harper, G. C. and A. Makatouni, (2002): Consumer perception of organic food production and farm animal welfare. <i>British Food Journal</i> 104(3/4/5): 287-299.	<i>A study based on information drawn from focus groups about consumer perceptions of organic food in relation to animal welfare, including aspects of health and safety, and the role of ethical concerns in purchasing behaviour.</i>
Heaton, S. (2001): Organic Farming, Food Quality and Human Health: A Review of the Evidence, Soil Association, Bristol.	<i>Report on the quality of organic food by the Soil Association.</i>
Koivisto Hursti, U. and M. Magnusson (2003): Consumer perceptions of genetically modified and organic foods. What kind of knowledge matters? <i>Appetite</i> , 41(2): 207-209.	<i>Examination of GM and organic foods, with particular emphasis on the level of consumer knowledge, based on questionnaire data from 786 respondents, and their ratings of GM foods, organic potatoes and organic meat according to different attributes.</i>
Macfarlane, R., (2002): Integrating the consumer interest in food safety: the role of science and other factors. <i>Food Policy</i> , 27(1), 65-80.	<i>Examination of four issues including pesticide residues in food, in the context of integrating consumer interest into food safety, with emphasis on the difference between scientific rationality and public attitudes towards risk and the perceived safety of organic foods.</i>

*Consumer attitudes to quality and safety of organic and low input foods*

<i>UNITED KINGDOM (continued)</i>	
Magnusson, M.K., A. Arvola, U-K.K Hursti, L. Åberg L. and P-O. Sjoden (2003): Choice of organic foods is related to perceived consequences for human health and to environmentally friendly behaviour. <i>Appetite</i> , 40(2): 109-117. (Drawn from a PhD summary in Uppsala)	<i>Study of consumer attitudes towards organic milk, meat, potatoes and bread, based on a postal questionnaire of 2000 Swedish citizens and analysed using descriptive statistics, factor analysis and bivariate correlations to link with other environmentally-friendly behaviour</i>
Makatouni, A., (2002): What motivates consumers to buy organic food in the U.K? <i>British Food Journal</i> , 104(3/4/5): 345-352.	<i>Report of the qualitative phase of a study focusing on the beliefs, attitudes and food choice of parents who do and do not buy organic food, using laddering interviews, focus groups and the means-end chain approach to determine motivations for purchase. Needs further investigation.</i>
McEachern, M.G. and P. McClean, (2002): Organic purchasing motivations and attitudes: are they ethical? <i>International Journal of Consumer Studies</i> , 26(2): 85-92.	<i>Exploration of the ethical nature of organic purchasing motivations and attitudes, using evidence from Scottish consumers of organic dairy products.</i>
Poppe, C. and U. Kjaernes, (2003): Trust in Food in Europe: A Comparative Analysis, National Institute for Consumer Research.	<i>Analysis drawn from the (in progress) comparative pan-European project, Trust in Food (2002-2004, including the UK), in which trust is explored in relation to 12 foods, including organic beef. Will provide useful background for exploration of trust variables.</i>
Saba, A. and F. Messina, (2003): Attitudes towards organic foods and risk/benefit perception associated with pesticides. <i>Food and Quality Preference</i> , 14: 637-645.	<i>Study of consumer trust in the risk/benefit perceptions of organic farming with special reference to organic fruit and vegetables, based on questionnaire data from 947 respondents, non-parametric analysis of variance, cluster analysis and structural equation modelling.</i>
Sage, C., (2003): Social embeddedness and relations of regard: alternative 'good food' networks in south-west Ireland. <i>Journal of Rural Studies</i> 19(1): 47-60.	<i>Using interviews with producers and other key individuals, and evidence of the strong interpersonal ties within transactions between small food producers and their customers, this paper focuses on notions of shared values and relations of regard in the organic food sector.</i>
Sandalidou, E., G. Baourakis, et al., (2002): Customers' perspectives on the quality of organic olive oil in Greece. <i>British Food Journal</i> , 104(3/4/5): 391-406.	<i>Exploration of the quality perceptions of organic olive oil and how these affect purchasing behaviour, using multicriteria satisfaction analysis (five criteria) and consumer segmentation.</i>
Schifferstein, H. and P. Ophuis, (1998): Health-related determinants of organic food consumption in the Netherlands. <i>Food and Quality Preference</i> , 9(3): 119-133.	<i>This study uses stepwise discriminant analysis to determine the health-related attributes of organic food consumption in the case of both buyers and non-buyers, including wholesomeness, absence of chemicals, environment friendliness and better taste.</i>

<i>UNITED KINGDOM (continued)</i>	
Torjusen, H., G. Lieblein, et al., (2001): Food system orientation and quality perception among consumers and producers of organic food in Hedmark County, Norway. <i>Food and Quality Preference</i> , 12(3): 207-216.	<i>Survey of quality perception in southern Norway using multivariate and segment analysis to determine the relative significance of different food quality issues to organic consumers and retailers, such as freshness and taste, and ethical, environmental and health aspects.</i>
Tovey, H., (1997): Food, environmentalism and rural sociology: On the organic farming movement in Ireland. <i>Sociologia Ruralis</i> 37(1): 21-39.	<i>Using ideas drawn from the Irish organic farming movement, this paper argues that food remains a highly significant issue in terms of production, consumption and development, and needs to be conceptualized in rural sociology in more holistic ways.</i>
Verhoog, H., M. Matze, et al., (2003): The role of the concept of the natural (naturalness) in organic farming. <i>Journal of Agricultural and Environmental Ethics</i> 16: 29-49.	<i>Study of the conceptualisation of 'natural' in organic farming, and questions relating to consumer perceptions of low input as opposed to organic production, based on qualitative interviews with organic consumers and others involved in the sector.</i>
Vindigni, G., M. A. Janssen, et al., (2002): Organic food consumption: A multi-theoretical framework of consumer decision making. <i>British Food Journal</i> 104(8): 624-642.	<i>Study concerned with the development of methodological approaches to consumer decision-making (rather than substantive outcomes), using survey data combined with multi-agent simulation and rough set theory to track/target consumer segments interested in organic foods.</i>
Wilcock, A., M. Pun, J. Khanona and M. Aung (2004): Consumer attitudes, knowledge and behaviour: a review of food safety issues. <i>Trends in Food Science and Technology</i> , 15(2): 56-66.	<i>Literature review of diversity of consumer attitudes towards food safety, examining factors such as demographics and socio-economic status, and the relationship between consumer attitudes, knowledge and behaviour regarding food safety.</i>
Winter, M., (2003): Embeddedness, the new food economy and defensive localism. <i>Journal of Rural Studies</i> , 19(1): 23-32.	<i>Study of local and organic foods from the sociological perspective, with particular emphasis on the concept of quality as applied to food and agricultural production more generally, and to non-organic as well as organic products.</i>



## **APPENDIX B: PANEL DATA DETAILS**

### **GfK purchase data set**

The Danish household panel data was provided by a market research institute GfK Denmark, and encompasses the purchasing behaviour (daily necessities) of more than 2,000 households during 1997-2001. Approximately 20% of the sample is replaced each year, and the panel is continuously balanced to ensure representativeness of the Danish population. An analysis of this, reported in Andersen (2002), concludes that the panel is quite representative. All data are self-reported: each household fills in a shopping diary, which is finally collected and checked by GfK Denmark. The households report product characteristics at a detailed level (type, brand, scanner-code, volume, units, price, organic/non-organic) and furthermore store choice and time for each shopping trip. In addition to the purchase data, information on background variables (such as the number, gender, education, occupation, income and age of all household members, plus the geographical location, type and ownership of the home) is available.

### **Questionnaire data**

The Danish purchase data are supported by a questionnaire, surveying households in the very same panel for information on attitudes, perceptions, values and food habits. 1609 households responded to the questionnaire, corresponding to a response rate of 77%. In the survey, we focused particularly on perceptions and stated valued attributes concerning organic foods. It is the combination of these two sources of information (purchase data and questionnaire data) about the same households that makes the data unique.

### **TNS purchase data set**

The British household panel data was provided by a market research institute TNS, encompassing the purchasing behaviour (daily necessities) of 15,000 households. Purchase data for five product types (organic/non-organic weekly purchases of milk, eggs, yoghurt, fruit and vegetables) were registered during 2001-2003. Purchase data include household level information on spend and volumes, plus total basket spend and store choice for each of the five product categories. Approximately 20% of the sample is replaced each year, and the panel is continuously balanced to ensure (geographically and demographically) representativeness for the British population. However, this is not fully achieved, as the upper middle class, in particular, is not sufficiently represented. Panel members record items purchased from every shopping trip using a barcodes laser scanner. In addition to the purchase data, information on background variables (such as social class, child presence, household size and age of key household shopper, plus regional coding) is available. Finally, data include the top-20 statements that are most frequently agreed upon amongst organic buyers, compared to the average household shopper. However, importantly, this information is only available at the aggregated level, thus ruling out analyses which combine it with household purchasing behaviour.