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# Exploring the “Limits to Growth” in UK Organics: Beyond the Statistical Image



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Terry Marsden



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# Exploring the 'limits to growth' in UK organics: beyond the statistical image

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## *Abstract*

Following a slow start in the early 1990s, the conversion to, and diffusion of, organic farming across UK agriculture has been impressive even by European standards. Between 1996 and 2000, for example, organic land in the UK showed a nine-fold increase. And correspondingly, the retail value of organic foods grew by a factor of four. From a distance, these impressive growth figures appear to accentuate the popular discourse of a very bright future for organic farming in the UK. But lurking behind this seemingly successful method of combating declining farm-gate prices whilst addressing issues of food safety, animal welfare and environmental quality, is growing evidence that the evolution of organic supply chains in the UK might be entering a phase characterised by the traditional *farm-gate price-squeeze*, so long an important feature of conventional agriculture. The objective of this paper, therefore, is to illuminate this emerging negative trend in UK organics, and to offer some suggestions for future public policy-making.

## **Introduction**

Over the last two decades, across the European Community (EC), concern for food quality and the characteristics of the environment in which foods are produced have gradually replaced concerns of food security and self-sufficiency. As the concern for food quality and agro-ecology deepens, the philosophy and practice of organic farming have taken on new and greater importance in European agriculture.

To many who advocate the agro-ecology perspective of European agriculture, organic farming offers an effective means of satisfying consumer demand for healthy and safe foods and reducing the environmental pressure of agricultural production, whilst simultaneously addressing important animal welfare issues. In the realm of agrarian-based rural development policy formation, organic farming is thought to offer significant prospects for strengthening rural economies due to its tendency to utilise more labour than is similarly required on conventional farms, as well as offering a potentially effective response to the price/cost-squeeze on agriculture (Marsden *et al.*, 2002). The literature cites many opportunities to locate value-added activities around food production on organic farms (see, for instance, Offermann and Nieberg, 2000).

This argument, that organic farming and rural development are linked in a positive way, is supported by a considerable body of literature that focuses, not least, upon organic production statistics, production incentives, farm economic results and organic retailing statistics. It is not clear, however, how these various links will ultimately evolve over time, or what barriers to further rural development there may be. Moreover, with the general literature tending to treat 'organics' as an aggregated

and homogenous category, relatively little attention has focused on exploring the different types of supply chains that have emerged.

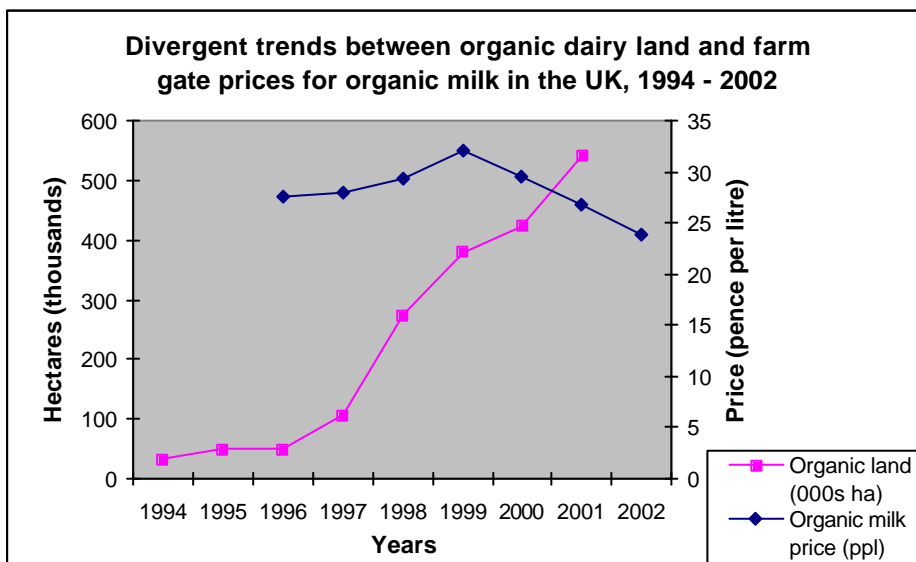
Nevertheless, and despite the above concerns, policy-makers in most European Union (EU) countries seem to agree that organic farming ought to play an important role in shaping the future of European agriculture, and in many cases, have set challenging land area targets for organic farming for the next five to ten years (see, for instance, Willer and Yussefi, 2002). But, close examination of how well organic food supply chains function is required if the long-term economic and rural development benefits of further expansion of organic farming across Europe are to be more clearly identified. With the rapid expansion in organic farming that has been occurring across the EU and beyond, a supply chain focus - in contrast to continued policy preference for greater productivist strategies – could facilitate significant rural sustainability benefits. With this in mind, it becomes important that new research into organic foods and food systems across Europe begins to look beyond mere production incentives and reports of impressive increases in the retail value of organic foods. A clearer understanding is needed of how public policies and market frameworks could encourage continuous and sustainable growth in the consumption of organic foods; and in particular, how this growth actually delivers wider and lasting rural development benefits.

### **Interpreting the boom in UK organics**

Whilst a number of influential market surveys report sharp and continuous increases in the retail value of organic foods across Europe (Promar, 1999; Datamonitor, 1999;

Miele and Renting, forthcoming; Mintel, 1999 and 2001), figures for the UK point to a disturbing divergence between the positive message being delivered by production and retailing statistics at the national level, and experiences at the organic subcategory and individual producer levels (see SA, 2001a; Bagenal, 2001; Smith, 2002). If organic dairy production in the UK is taken as an example, Figure 1 below, shows that since 1998, the continuous increase in the supply of organic milk appears to have triggered a steady decline in the farm-gate price that organic farmers receive.

**Figure 1: Divergent trends between organic dairy farmland and farm-gate prices for organic milk in the UK, 1994 - 2002.**



Sources: Fowler *et al.*, (2000); Lampkin and Measures, 1999 and 2001; Farmers Weekly, 5/4/02; www.Organic.aber.ac.uk.

At the same time as this rather traditional relationship between supply and commodity prices is becoming increasingly evident, certain strong advocates of organic production, such as the Soil Association, have been underscoring the fact that the UK has the fastest growing organic market in Europe (SA, 2001b). In fact, with retail sales in 2001 showing a year-on-year increase of more than 30 per cent (SA, 2001b;

Mintel, 2001), the trend of growing consumer demand for organic foods in the UK throughout the past decade has remained very much intact. This buoyancy in consumer demand has, for the most part, been mediated by the major supermarket chains which, according to Mintel (2001), account for approximately 70% of all organic foods sold to UK consumers<sup>1</sup> (see also Jones *et al*, 2001).

The dominant role that major supermarkets in the UK play in the organic foods retail chain, and their stated preference for UK organic products (see Waitrose 2002, J Sainsbury 1999, Tesco 2001), appear to offer a very bright future to indigenous producers. And, considering the following observation by Hamm and Michelsen (2000), cited in Willer and Yussefi (2001, p. 72), this optimism is quite significant.

In countries where organic foods are mainly sold via supermarkets, growth and market shares are higher than in those where specialised shops are the main marketing channel (Willer and Yussefi, 2001, p. 72).

Yet, despite the bright prospects that multiple retailers seem to be offering UK farmers, the farm-gate 'price squeeze' effect illustrated in Figure 1 above, has, to a very large extent, been associated with the growing dominance of large supermarkets in the organic food retailing chain. And, whilst this unsettling development may be new to the organic farming sector, it has long been a characteristic of conventional food supply chains, forcing many farmers into progressively more intensive production strategies - strategies which have often been associated with the gradual erosion of high quality food production across the EU.

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<sup>1</sup> SA (2001b) reports that, in 2001, 80% of organic food sales in the UK took place via supermarkets.

Clearly, if the competitive market place is to deliver significant financial encouragement to organic farmers in the UK, then organic foods need to be made more easily available to all consumers, and aggregate consumer demand needs to continue to outpace supplies. And, whilst higher production costs in some countries that export organic foods to the UK may auger well for UK farmers, without consumer demand matching/outpacing supply, or a significant increase in state subsidies, individual organic producers and organic subsectors could well be facing the imminence of a *ceiling* in organic production. Consequently, if organic farming does, in fact, offer the prospect of delivering significant rural development benefits, then it is important that new research into agro-ecology issues and rural sustainability begins to assess how particular barriers to the continued growth of organic farming - in particular, a domestic production ceiling due to the growing commoditisation of organic produce by major retailers - can be identified and potentially overcome.

By introducing the notion that there may be *limits to the growth* of indigenous organics in the UK - particularly in relation to the way in which the multiple food retail sector functions - this paper attempts to re-focus the debate from issues surrounding organic production *per se* to concerns for the broader and more sustainable economic development of the market for organic produce. The paper starts with a pan-European review of the market for organics and seeks to identify trends suggesting that a *ceiling* exists or is forming, and examines potential rural development benefits that may accompany the removal of this barrier. A contemporary examination of the role and impact of large food retailers on the development of the organic farming sector in the UK follows. In this section, the discussion focuses on the issue of power relations within organic (agro-food) supply

chains. The paper concludes with a critical evaluation of the future of organic farming in the UK in particular, and in Europe more generally. Issues of institutional capacity and private-interest regulation are discussed within the context of rural development and organic farming policy-formation.

## **The organic market: the statistical story**

### **The broad view**

Although precise figures are difficult to obtain, retail sales of organic foods across the EU for 2001 have been estimated to be some US\$7 billion (Willer and Yussefi, 2002). This makes the region the second largest market for organic foods in the world. As we might expect, the size and significance of the retail market for organic foods within and amongst the different member states of the EU vary widely. On one hand, certain member states (such as Spain and Italy) appear to function mainly as export-orientated organic food producers, whilst on the other, countries such as the UK and Germany, for instance, are heavily dependent on imports to satisfy their respective consumer demands.

The emergence of this large and seemingly vibrant market for organic foods across the EU has been facilitated by four main factors:

- substantial public funding for organic production (for conversion to organic farming, in particular) under EC Regulation 2078/92 (Lampkin *et al.*, 1997);
- the introduction of a common statutory framework (EC 2092/91) to preserve the integrity of the organic claim within the EU;

- a decade of economic prosperity across the region which has enhanced consumer demand for authentic and more specialised value-added goods;
- growing consumer distrust of the quality of conventionally produced foods following a steady stream of food scares.

But, even though the market for organic foods has shown rapid growth over the past decade, as a proportion of total retail food sales, organic foods is still a relatively small contributor. Table 1 below shows approximate values for organic retail sales in selected European countries.

**Table 1: Estimated retail sales (US\$m) of organic foods in selected EU countries, 1997 - 2000.**

	1997	1998	1998/9	1999 (estimates)	2000 (estimates)
<b>Austria</b>	225	200	295	145 225-300*	400
<b>Denmark</b>	300	500	360		600
<b>France</b>	655* 720*	465 615 700	660	1,000	1,250 2,310
<b>Germany</b>	1,800 1,975 2,560	>2,000	2,470	2,500	2,500
<b>Italy</b>	750			1,330	1,100
<b>Netherlands</b>	115 350	130 425	215	155 400	700
<b>Sweden</b>	110			140	400
<b>UK</b>	435 450 445 455	640	640	650-750 910	900 1,700

Source: Miele and Renting, (forthcoming). \*Denotes estimates of retail sales from multiple sources.

In addition to providing a broad overview of the estimated retail value of organic foods in selected EU countries, Table 1 reveals the lack of consensus in the estimates supplied by different research groups in the same countries. These sometimes widely divergent estimates have important implications for the validity of any ensuing forecasts of future development of the organic food market.

This issue - the reliability of estimates concerning the organic retail market – leads naturally to questions regarding the credibility of some of the data that is often used to plot the path of EU organics. In fact, in Table 2 below - where the nominal values from Table 1 are expressed as percentages of overall food sales – confirms the lack of consensus by market analysts is evident. Table 2 shows also that despite market analysts' optimism in estimating the future market share of organic foods, actual figures up to 1998 suggest that, *in relation to overall food sales*, only marginal percentage growth has been taking place (see Figure 2 below also).

**Table 2: Organic foods as a percentage of overall food sales in selected European countries, 1997 to 2000.**

	1997*	1997*	1997*	1997/8	1998 (estimates)	1999 (estimates)	2000 (estimates)
<b>Austria</b>	2.0	2.5	1.25	2.5	5.0	3.0	
<b>Denmark</b>	2.5	<3.0		<3.0	3.0	4.0	
<b>France</b>	0.5		0.6		0.5 0.5-1.0*		3.0 3.0-5.0*
<b>Germany</b>		1.5	0.5	1.5	2.5		
<b>Italy</b>	0.6		1.0		1.0		
<b>Netherlands</b>	1.0	1.5	2.5-3.0	1.5	<1.0		
<b>Sweden</b>	0.6	<3.0		<3.0 1.0-1.5			
<b>Switzerland</b>	2.0				1.5	2.0	
<b>UK</b>	0.4	2.0		2.0	1.0		7.0-8.0 <sup>2</sup> (2002)

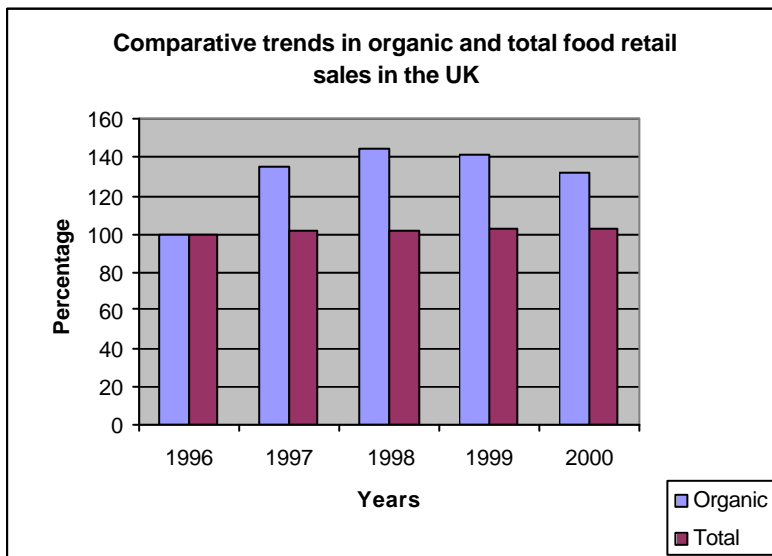
Source: Miele and Renting (2002). \*Denotes figures/estimates from different research providers.

Despite a significant body of literature arguing that both organic land and the retail value of organic foods have been showing double-digit annual growth rates throughout the past decade (see, for instance, Lampkin *et al.*, 1997; Offermann and Nieberg, 2000; Miele, 2001), as a basis for optimism in retail markets, the data presented in Tables 1 & 2 above, seems, on the whole, to be less supportive. In fact, an examination of national organic market shares (see Table 2), with the exception of the hugely optimistic forecasts that were made for 1998 - 2000, suggests that the retail value of organic foods (as a percentage of total sales) has essentially been flat.

If the UK is used as an example, it can be seen that at no time up to 1998 did retail sales of organic foods exceed 2.0 percent of the value of the total food market. Yet, according to Miele and Renting (forthcoming) in Table 2 above, the retail value of organic foods is expected to climb to between 7.0 - 8.0 percent of total retail food

sales in the UK during 2002. If, in 2002, this forecast is compared with the latest Mintel Report (Mintel, 2001), it can be seen that the retail value of organic foods in the UK during 2000 was approximately £727 million (US\$1 billion), or only 1.1 percent of the total value of the retail food market in the UK. Clearly, for an organic foods retail market share of 7.0 percent to be achieved in the UK in 2002, the most likely scenarios would need to be stagnation or contraction of total food sale at the same time that the sale of organic foods would need to grow at a rate in excess of 200 percent during 2001 and 2002. Looking back at the comparative market trends from 1996 onwards, Figure 2 below suggests that both of these scenarios would be unprecedented occurrences.

**Figure 2: Comparative trends for organic foods and total food sales in the UK, 1996 - 2000.**



Source: Compiled from data in Mintel (2001).

<sup>2</sup> One question that emerges from Table 2 (in terms of the validity of estimates of future market-shares for organic foods) is what assumptions underpin estimates such as the 7 - 8% for the UK in 2002?

Although the image depicted by Figure 2 above is an important indication of the evolving trend in the value of organic food sales vis-à-vis total food sales in the UK, such a broad view of the market tends to mask important countervailing trends that may be operating within and between different product categories. Through close attention to market trends as they appear to be operating within key organic farming subcategories in the UK, the following section attempts to elucidate key tensions at the micro-level.

### **Micro-organics: identifying a farm-gate price-squeeze in the UK**

As was shown earlier, supermarkets are by far the dominant channels through which UK consumers purchase organic foods. According to *The Organic Food and Farming Report 2001*, this dominance has been increasing and has resulted in:

- the UK having the fastest growing organic market in Europe;
- the market share held by supermarkets increasing from 74 percent in financial year 1999/2000 to 80 percent in 2000/2001 – leading to a proportionate decline in the market share represented by direct sales, and sales through independent and health food shops; and
- supermarket price wars which have begun to threaten the integrity of the market by exerting a price-squeeze on indigenous organic producers (SA, 2001b).

But, whilst aggregate retail figures on organic food sales in the UK point to an exceedingly buoyant national market, crucial structural changes in terms of market access for organic farmers, as well as competition between organic and other forms of 'green' farming produce, have begun to be acknowledged in 2001 in particular. If

recent market reports from the Soil Association (see, for instance, SA, 2001a) are accurate, and comments on the market from individual organic farmers reflect the overall picture, then the macro-economic image of the UK market may be masking important internal contradictions. And, whereas information on the national market size and vibrancy may be useful for macro-economic planning, policy-making and political lobbying, organic farmers engage with a micro-economic reality. The lag effect inherent in organic conversion notwithstanding, these commercial producers are in daily confrontation with perennial challenges of assessing the economic realities of their farming decisions. Consequently, a reliable indication of what lies ahead for UK organics might therefore benefit from the separation and exploration of trends that may be operating on the micro-economic scale from those that are evident in the broader, national statistics.

#### Production growth and retail market value

Although precise figures are difficult to obtain, recent data from the Soil Association shows that, in the UK, certified organic farmland and land in-conversion continue to increase at a very rapid pace. Compared with some 49,535 hectares in 1996, certified organic farmland and land in-conversion in the UK in April 2000 stood at 425,000 hectares (SA, 2001b). Using the same period, the corresponding values of organic retail sales were £200 million and £727 million respectively (Mintel, 2001). Table 3 gives a clearer picture of how the increases in total organic farmland and increases in retail sales of organic foods, between 1996 and 2000, relate in the UK. The picture that emerges from Table 3 is a less positive one - a sharp fall in retail market value per *hectare of UK organic land*.

**Table 3: i. Estimated retail value of organic foods produced in the UK (£);**

**ii. Retail value (£/ha. of organic farmland) of UK production.**

	1996	1997	1998	1999	2000
<b>Organic land (hectares)</b>	49,600	106,000	275,000	380,000	425,000
<b>Organic retail sales (£)</b>	200,000,000	270,000,000	390,000,000	550,000,000	727,000,000
<b>Retail value of organics produced in the UK (£)</b>	60,000,000	81,000,000	117,000,000	137,500,000	200,000,000
<b>Retail value of organics produced in the UK (£/ha)</b>	1210	764	425	362	471

Source: SA (1999, 2000, 2001b); Mintel (2001).

While certified organic and land in-conversion in the UK increased nearly nine-fold between 1996 and 2000, the retail value of indigenously produced organic foods increased only four-fold. At the same time, the productivity (retail value) of each hectare of organic land in the UK slipped between 1996 and 2000. In other words, whilst organic land has been increasing in the UK, revenue (retail sales of indigenous organics/hectarage) has been in decline. This conclusion is, however, somewhat speculative given that:

- where actual figures are not available, annual retail values for UK organics are based on the estimate that approximately 70% of organic foods sold in the UK are imported (see, for instance, Mintel 1999, 2001);

- the values derived for productivity per hectare of UK organic land could have been negatively affected by fluctuations in the balance between fully certified organic land and organic land in-conversion, as well as shifts in the composition of organic acreage, especially in terms of organic farm types. Note should also be taken that all foods that would have been sold as organic would have come from fully certified organic land; also
- increases in organic food processing to meet the growing demand for convenience foods may have affected these values in a positive way.

Therefore, whilst the apparent divergence in trends between the overall retail value of organic foods in the UK (the national view) and the retail value of indigenous production per hectare (the local perspective) might be unexpected, the following review of market operations in key organic production/retail subsectors support the earlier hypothesis – that, like conventional farmers, organic producers are becoming caught in a *farm-gate price-squeeze* (Van der Ploeg, 2000). How has this affected particular organic sub-sectors in the UK?

## **Slicing up UK organics**

### Organic milk

Earlier, we acknowledged the increasing importance of the corporate food retailing sector to the growth of organics, overall, in the UK (see also Mintel, 1999 and 2001; Willer and Yussefi, 2001; SA, 2000; Leaver, 2001; Smith, 2002). At the subcategory level, and in respect of organic dairy products for instance, Mintel (1999) report that in 1998 the UK produced 90% of the nation's consumption of organic dairy products.

Including imports, the total retail value of organic dairy foods consumed in the UK during 1998 was £35 million. If we look back to 1996 (instead of 1998), the retail value of organic dairy foods in the UK would have increased from £14 million to £75 million in 2000. This five-fold increase in retail sales of organic foods, between 1996 and 2000, distinguishes the organic dairy food subsector as one of the fastest growing subsectors of UK organics (Intel, 2001; SA, 2000).

Consistent with the trends operating in the broad retail market for organic dairy products, dairy farming in the UK has been yielding comparatively better results for organic farmers than has been the case with conventional farmers (see Smith, 2001; Fowler *et al.*, 2000). However, underlying this more favourable economic outcome that organic dairy farmers have been enjoying, as with their conventional dairy farming counterparts, year-on-year gross margin per dairy cow in the UK has been showing more declines than increases (see Table 4 below).

**Table 4: Gross margins in organic dairy in the UK, 1996 - 2002.**

	1996	1997	1998	1999*	2000*	2001^	2002^
<b>Milk yield (litres per cow)</b>	5,361	5,227	5,510	5,700	6,000		
<b>Milk sales (pence/litre)</b>	27.6	28.0	29.4	32	29.5	27	23
<b>Gross margin including forage costs (£/cow)</b>	1,112	1,045	1,260	1,205	1,184		

Sources: Fowler *et al.* (2000); \*Lampkin and Measures (1999 and 2001); ^Farmers Weekly (5/4/2002).

Whilst average milk yield per organic dairy cow had increased steadily between 1996 and 2000, both the price per litre for organic milk and the gross margin per dairy cow rose to highs in 1998 and 1999 from which they have been in gradual decline. Table 4 suggests, therefore, that organic dairy farmers in the UK may be confronting a farm-gate price ceiling in respect of their organic milk.

The Soil Association recognises this concern as follows: "[t]he UK organic dairy sector is officially in over-supply, with some 50 - 60 per cent of production going to non-organic outlets" (SA, 2001a, p. 10). In fact, not only must some 50 - 60 per cent of organic milk produced in the UK be sold at conventional milk prices (17.5 pence/litre), but much of what has been sold as organic did so at an average price that was below 27 pence per litre.

*What might this mean for gross profit margins?*

If we return to the data for 2000 in Table 4, and calculate how the gross margin per organic dairy cow might have been affected by the 2001 over-supply of organic milk, what emerges is that with 50 per cent of organic milk being sold at conventional prices, gross milk sales per cow would have fallen from £1770 to £1410 - a difference of £360. Assuming no change in variable costs, gross margins would have fallen from £1,184 to £824 - a decline of approximately 30 percent. This change in economic fortunes would have effectively erased any economic advantage that organic dairy farmers might have had over their conventional farming colleagues; as with a lower stocking rate (1.6 compared with 2.0 cows per hectare on conventional dairy farms, Fowler *et al.* (2000)), the gross profit margin would become £1,318.40 on organic dairy farms compared with £1,305.30 on conventional dairy farms.

For those organic farmers who are motivated by the positive economic rationality of organic farming, the preceding scenario ought to be particularly disconcerting, especially as many existing organic dairy farmers 'have been busy expanding their operations' (SA, 2001a) at the same time that a large number of new entrants have been coming to the end of their organic conversion phase.

The over-supply of organic milk is also threatening to destabilise the erstwhile smooth-functioning organic milk marketing groups. The downward pressure on farm-gate prices for organic milk has been leading to greater fragmentation in the marketing framework, as some producers seek to establish ties with marketing groups that appear to offer them the best price and volume prospects. The situation is further compounded by the large number of new organic dairy farmers who are entering the market without reliable marketing contracts. The preceding scenario is taking place whilst aggregate retail sales for organic dairy products in the UK continue to show very impressive growth - another example of the divergence between the prospects for broad market growth of organics in the UK and diminishing prospects for individual organic producers.

### Organic lamb

As with organic milk, the UK is largely able to satisfy domestic demand for organic red meats (Mintel, 1999). However, indications are that the market for organic red meats in the UK, particularly organic lamb, is suffering the same pressures as organic milk. Reports (see for instance SA, 2001a and Smith, 2002) reveal that, in addition to the build-up of finished organic lambs in the early part of 2001 (associated with the outbreak of foot and mouth disease (FMD)), in the latter part of that same year the market for organic lambs in the UK all but collapsed, leaving farmers without viable

disposal channels for their finished animals. Many of these farmers were only able to sell a small portion of their finished livestock through the customary marketing channels. For the remaining portions of finished herds, and for many farmers, the options were disposal at conventional lamb prices or retention throughout the winter months in the hope of a market recovery in 2002. Neither of these were desirable strategies for organic farmers as retaining livestock beyond optimum marketing points usually results in higher production costs and lower prices due to deterioration in meat quality.

One of the UK's largest marketing companies for organic livestock attributed these disappointing market conditions to:

- dramatic year-on-year increases in the supply of organic lambs - a situation that they believe will get worse before the combination of depletion of organic conversion funds and market forces combine to constrain further increases in organic lamb production;
- the fact that, in supermarkets, organic lamb has been placed in competition with the cheaper and similarly 'green' Welsh Mountain lamb.

In the words of one organic producer, 'supermarkets are making so much money on these lighter (mountain) lambs that they don't want to know about organic lambs' (Smith, 2002). As a result, whilst membership of, perhaps, the largest organic livestock marketing network in the UK - The Graig Farm Producers Group - had grown from 50 to 180 organic farmers between 2000 and 2001, during the latter part of 2001 disposal of organic lambs had fallen from an average of 750-800 per week to

just 250 (ibid.). At the same time, the problem of too few opportunities to dispose of finished organic lambs in the UK was worsened by the loss of economies of scale in relation to livestock transportation costs. Whilst customary transportation costs were being incurred by farmers, substantially fewer lambs were being sent for slaughter each week. And, as was evident in the case of organic milk, above, the price of organic lamb began to react to market conditions.

### Organic horticulture

Even though over 80 percent of organic fruits and vegetables consumed in the UK are imported (Intel, 2001), within the organic horticulture subsector the evolving trend seems to be plotting a path that is familiar to organic dairy and livestock producers. In a reaction to this development, the Soil Association reported that

[t]his season (2001) has seen a large increase in fully organic land, and with it, a growth in the availability of UK organic vegetables. Unquestionably, this is taking its toll in the market, with wholesalers and retailers able to 'pick and choose' more freely than in the past. Prices haven't suffered too badly as a consequence but market security for growers has certainly been eroded (SA, 2001a, p. 11).<sup>3</sup>

Although the increase in domestic supplies of organic vegetables may not have caused prices to decline very sharply, it is widely acknowledged that notions of bright economic prospects for organic farmers are strongly linked to their ability to dispose

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<sup>3</sup> See also reports that post-date this paper, for instance 'Incomes slump in German organic farms', *Organic Update Newsletter*, January 2003.

of all or the majority of their produce at premium prices. This is especially true in the UK where public policy incentives to organic farmers do not include maintenance subsidies. Consequently, as has been seen in respect of organic milk and lambs, apparently stable organic commodity prices may be a poor indicator of the market conditions which individual organic producers and producer sub-groups face.

### Organic cereals

The market outlook is not necessarily gloomy for all organic subsectors however. In the case of organic cereal production and marketing in the UK, the Soil Association perceives a continuation of 'very sunny skies' (SA, 2001a). Although domestic production of organic cereals has increased significantly, the Soil Association does not believe that it is exerting any negative pressure on wholesale prices (ibid.). This rather fortunate situation for organic cereal producers in 2001 has benefited from a world-wide shortage in the supply of organic grain, as well as a higher demand for grain to feed UK livestock that had been experiencing restricted forage movements due to FMD. Therefore, whilst organic cereal farmers in the UK have good reasons for optimism, the future of this organic subsector could eventually mirror the development path that is visible for organic milk, meat and vegetables.

In brief, the preceding section attempted to disaggregate the macro-economic statistical image of organics in the UK from the one that appears to exist much further down the organic product/retail supply chain. In seeking to disconnect the broader view of the retail market for organic foods in the UK from the image that individual producers and producer sub-groups must engage with, the discussion suggests that

very optimistic aggregate forecasts of future prospects for UK organics could be masking influential micro-level counter-trends. That domestic production of organic foods is increasing at a rapid pace is not in doubt, neither is the dynamism of the organic retailing sector. What is less clear, however, is the sustainability of current levels of organic production and further growth within a context of 'over-supply' and declining wholesale prices. Moreover, in the knowledge that some 70 per cent of all organic produce sold in the UK is imported (often from lower-cost producing countries), competitive market forces and demand pressures on organic price premia can be expected to play a strong role in the future development of the organic production and retailing sectors in the UK.

One implication is, therefore, that an organic farming policy framework that continues to give greatest importance to production incentives and the attainment of aggregated organic land area targets may, over the longer term, prove to be less effective in facilitating higher sustainable levels of organic production than policies that focus on the retailing and consuming side of the organic food supply chain. With this in mind, and looking beyond the UK, after a decade of primarily production incentives to organic agriculture across the EU, and despite ambitious production and market forecasts, Table 2 confirms that as a percentage of national retail expenditure on foods, the growth of organic foods has remained essentially flat in most EU countries. And, in countries with mature organic food markets, for instance Germany, Austria and Finland, clear signs of slower growth have begun to appear. In France, for instance, year-on-year organic production and sales have actually declined during the mid-1990s (see Miele and Renting, forthcoming).

The preceding analysis allows us to posit, therefore, that the organic food sector may be starting to experience similar levels of inelasticities in demand as those operating in the conventional sector. As a consequence, any policy emphasis on the retailing end of the organic supply chain (the subject of the following section) will need to recognise the dominant role that supermarkets play in encouraging organic production on the one hand (Mintel, 1999 and 2001; Willer and Yussefi, 2001) and, on the other, how they tend to meet consumer demands in the UK through a combination of imports and downward pressure on farm-gate prices.

## **'Limits to growth' and the competitive corporate market place for UK organics**

### **Conflicting signals**

Whilst the likelihood of continued growth in the retail value of organic foods in the UK may provide reason for much optimism across the organic food sector, amongst individual indigenous organic producers and organic farming sub-groups, the future is less positive. As was shown earlier, the competitive context for indigenous organic producers has been changing as existing farmers increase both acreage and levels of output, and as new farms gain full organic certification. The general finding has been that increasing organic production has not been followed by proportionate increases in farm returns (as measured by gross margins).

This scenario, of rapidly increasing volumes of indigenous organic produce, is being exacerbated by steadily increasing imports as the large supermarket chains fine-tune

their overseas organic produce supply chains. As a consequence, whilst supermarkets may actually be facilitating strong growth in the broad market for organics across the UK through well-established overseas supply chains, these major food retailers may simultaneously be *creating limits to real growth* at the UK farmer and organic sub-group levels. The considerable power that supermarkets possess to drive broad organic retailing growth whilst simultaneously acting as a constraint on the financial prospects of indigenous organic producers will be illustrated below through a review of the key strategies that they have implemented to encourage both organic production and consumption in the UK.

#### Retailer initiatives: strategies of construction and modulation

Starting with the Safeway chain of supermarkets in 1981, major food retailers in the UK have been engaged in intense competition, as much to generate broad-based consumer interest in organic foods as to satisfy the resulting growth in demand. And, whereas up to the late 1990s the inter-chain competitive context has been defined in terms of the range and availability of organic products that each offers to consumers, at present competition between supermarkets for market share has been evolving towards a price-value strategy. As will be shown later, there may be limits to how much more consumers are prepared to pay for the advantages of consuming organic foods.

There is clear evidence that all major UK food retailers have activated corporate strategies that were designed to encourage greater production of organic foods in the UK during the mid-and late 1990s. In 1997 for instance, J Sainsbury started to publish

an organic foods newsletter, *Organic Food - A Growing Interest*, directed at their customers. Though this newsletter J Sainsbury provides consumers with general information about organic foods and outlines how the supermarket aims to respond to the growing demand for organic foods. J Sainsbury's aims to:

- increase the amount of organic foods on our shelves;
- extend the range of organic products available; and
- source as many organic fruit and vegetables as possible from British suppliers

(J Sainsbury, April 1997).

Consistent with the preceding aims, J Sainsbury reports that it 'has been working closely with the Soil Association to help meet customer demand for organic produce and give organic farmers *the message* (emphasis added) that it is determined to improve and expand the range of British organic produce' (ibid.). One expression of this collaboration with the Soil Association and J Sainsbury's support for British organic farmers has been the company's sponsorship of the National Conference on Organic Food Production in January 1997 to which the company invited a number of large conventional farmers as its special guests. The company has also set up an internet site, J Sainsbury's Organic Resourcing Club (SouRCe), solely for its organic suppliers with a view to facilitating a sense of partnership between itself and its organic suppliers (J Sainsbury, August 1999).

Like J Sainsbury, the Waitrose supermarket chain signalled its commitment to the expansion of organic farming in the UK during the late 1990s by launching its *Waitrose Organic Assistance Scheme* in 1998. This organic assistance scheme,

according to Waitrose, is meant to 'provide support and encouragement to UK producers in making the conversion to organic farming' ([http://www.waitrose.com/food\\_drink/organics](http://www.waitrose.com/food_drink/organics)). With this in mind, Waitrose's approach is to operate in partnership with a number of organic producers who act as 'demonstration farms', thereby creating a face-to-face information forum for prospective organic farmers. In addition to the above, in 1999 the company announced the funding of three annual student bursaries for study in organic farming, and has also come out in strong support of the Organic Targets Bill which seeks to ensure that at least 30 per cent of UK farmland is organic by 2010.

The UK's largest food retailer, Tesco plc, has also implemented both producer and consumer initiatives to encourage development of the organic food sector. Funding (£500,000) which the company has provided for the establishment and development of the Tesco Centre for Organic Agriculture at the University of Newcastle is a prime example. The Tesco Centre for Organic Agriculture aims to 'develop new technologies and production methods to help farmers make the transition to organic' (Tesco, November 2001).

However, despite the expressions of support and encouragement from major food retailers for organic farming in the UK, it is becoming increasingly apparent that retailers regard organics as just another commodity range. Reports from organic livestock farmers, who have seen shelf-space normally occupied by their organic lamb taken over by Welsh Mountain Lamb, testify to this. Waitrose, for instance (the supermarket chain which, incidentally, has the distinction of being voted 'Organic Supermarket of the Year' in 1998 and 1999), argued as follows:

Our aim is to make sure that our range is as comprehensive as possible and to seek the best organic suppliers..... Take vegetables, if an organic product is available *at the right price and in sufficient quantity* (emphasis added), we will stock only the organic option. We also prefer, where possible, to source from within the UK (Waitrose, 2002).

But the transformation that has been taking place at the retail end of UK organics goes beyond assuring greater supply, wider range and better quality of indigenous organic produce. The new challenge to indigenous organic farmers is to meet the volume, range and quality criteria at farm-gate prices that will make organic produce affordable to the majority of households in the UK. Such is the concern of Tesco's chief executive:

[o]ur research has highlighted a demand for change.....Our organic sales have been strong across the board, but now customers from all walks of life - particularly price sensitive families - are telling us that they want to buy more organic food. They also tell us that the main barriers preventing them from buying more are availability and affordability (Tesco, November 2001).

Tesco's aim for organic food in the UK not only appears to have been informed by their own market research, but seems to be in-step with broader academic studies on the elasticities between food prices and consumer behaviour (see, for instance, Weir and Calverley, 2002). Consequently, Tesco's challenge - that organic farmers in the UK produce greater volumes at cheaper prices - has been conceived against the

background that the food retailer aims to increase its overall sales of organic foods to £1 billion within five years; and is looking to indigenous organic producers to help it achieve this goal. News releases from as early as January 2001 show that Tesco has already started to systematically reduce the price of a range of organic foods in its stores - some by as much as the aforementioned 20 percent (see also World Organics News, 2002).

Within the context of the broader, national market for organics in the UK, the Tesco challenge seems to be offering a significant retailer/consumer pull effect to indigenous organic farmers. Nevertheless, the Soil Association (which represents the largest single group of organic farmers in the UK) appears to be less than enthusiastic about the market conditions that this initiative might create. The Soil Association is particularly concerned that supermarkets are failing to recognise that they need

to pay a fair price for organic produce. Organic farmers need to be assured that supermarkets will support them by paying a price that reflects the true cost of production..... The combination of supermarket price wars and lamentable failure to be loyal to UK producers has driven the price that most dairy, beef and sheep producers receive to below the cost of production (SA, 2001c).

However, at the same time that organic farmers and their representative bodies are expressing concerns about a *farm-gate price-squeeze*, information from a Friends of the Earth survey (2000) suggests that, in many cases, customers are being 'seriously overcharged' when they buy organic foods (Jones *et al.*, 2001, p. 362, see also Bell,

1999). This power over farm-gate and retail prices places supermarkets in a very strong and potentially very profitable position within the organic food supply chain.

But, Tesco has not been the first major food retailer in the UK to devise an aggressive strategy to market organics to 'price-sensitive families.' In June 2000, the Iceland supermarket chain announced its own objective to offer 100 percent organic own-label vegetables by the end of that year. The company backed up this sales objective with an investment of £1 million 'to support UK initiatives to increase organic farming acreage' (Iceland, June 2000). Iceland's secondary objective was to offer its customers organic vegetables at standard (conventional) prices.

However, Iceland's ambitious plans for growing its organic retailing division were not matched by consumer demand, and this resulted in company losses that amounted to millions of pounds and the complete abandonment of the initiative in 2001.

Unlike Iceland, Tesco's organic food initiative seems committed to avoiding the mistakes that were made by the Iceland chain. Unlike Iceland, Tesco seems unwilling to sacrifice its own profit margins in the quest to convert 'price-sensitive families' into organic food shoppers. The preferred option appears to be a combination of cheap imports and low UK farm-gate prices consequent on an over-abundance of indigenous organic produce. And the effects on farm-gate prices of burgeoning supplies of indigenous organic produce, such as organic milk, lamb and vegetables, are already evident in the UK marketplace. This conventional characteristic of the competitive marketplace is taking place whilst all the major supermarket chains in the UK continue to communicate messages of shortages of indigenous organic produce, and their willingness to give priority to local sources.

This analysis reveals a production and marketing context for organic foods in which private sector initiatives (largely consumption-orientated) have joined with public policy initiatives (largely production-orientated) to encourage greater levels of organic production in the UK. This unspoken 'public-private partnership' has resulted in tremendous growth in indigenous organic production, as well as growth in value of the broad organic retail market in the UK. But the failure of public policy to mediate the nature of engagement between organic farmers and organic retailers is beginning to cast an ominous shadow across what was previously a very bright future for organic farming in the UK. In short, this particular set of policy and private sector relationships which are impacting on the evolution of organic food supply chains in the UK can clearly be seen to be re-establishing the traditional *farm-gate price squeeze* that has long been associated with conventional agriculture. Consequently, a national organic farming policy that remains centred on organic farm production risks looking through 'the wrong end of the telescope.' There is a clear need to look at the whole supply chain, and in particular, how the processing and retailing sectors engage with organic farmers.

Moreover, as fierce competition between the major UK food retailers for a larger share of the lucrative organic food market grows, each retailer attempts to forge *its own* supply chains through which organic farmers are encouraged to produce increasing volumes and wider varieties of items. But as volumes increase, the absence of any *currency of obligation* or covenants between retailers and their organic suppliers has culminated in retailers being able to 'pick and choose' between suppliers, produce and quality. The result is that, as the national market grows larger (fed by cheap organic imports and larger indigenous volumes), farm-gate prices come under

increasing downward pressure. This transformation in the competitive context of UK organics does not augur well for the long-term future of organic farming in the UK (see also Jones *et al.*, 2001), and makes a case for the development of methods to more effectively regulate private interests (between organic suppliers and retailers) if the full and wider benefits of organic farming as an engine of rural development are to be sustained. This, of course, cannot take place outside of the strictures of EU/UK competition legislation, but could be achieved through careful implementation of a *code of practice* to guide the operations of the entire organic food supply chain.

## **Conclusions: limits in UK organics and implications for rural development**

This paper has attempted to identify certain key barriers that might limit the future growth of organic production in the UK and, possibly, in those other EU countries (such as Sweden, Denmark and the Netherlands) in which large retailers are beginning to gain a dominant foothold within the organic food supply chain. The analysis has shown that, at the very least, we should treat with caution messages that organic production and sales offer positive prospects for UK farmers throughout the foreseeable future. ‘Straight-line’ projections and estimates (see, for instance, Lampkin *et al.*, 1997, SA, 2000, and Miele, 2001) tend to belie the contingency and complexity of supply chain relationships in the UK context. Moreover, there is a real danger - if the experiences of organic farmers in the UK during 2001, and so far in 2002, are continued - that retail-led organic supply chains will exhibit many of the long-standing features of the conventional food chains, particularly concerning the operation of a *farm-based cost-price squeeze*. This will lessen the impacts that are

beginning to be seen concerning value-added, quality food supply chains more generally, and, in some cases, of organic supply chains in particular (see Banks and Marsden, 2001; Renting, Marsden and Banks, in press).

What is becoming clear is that viewing organics as a central element in terms of promoting either ecological modernisation of the agro-food sector, on the one hand (Smith, 2002), or a panacea for the problems of rural economic development on the other, has to be seriously qualified by examining the particular types of overall *supply chain dynamics which are operating in particular types of organic sectors in different local, regional and national settings*. It is clearly not sufficient for scholars, policy-makers or organic NGOs to rely upon either (aspatialised) aggregated statistics or simple production function inferences which may suggest untrammelled growth. Even if this growth does materialise, we have shown here that over time, valorisation can shift away from the farm and hence the rural locale over time. This is reinforced by other data (for instance, IMPACT, 2001) which show considerable national and regional variations in the value-added benefits to producers as a result of organic farming (see Renting, Marsden and Banks, in press). Limits to organics are thus not only possible in terms of production and consumption, but also in terms of the local and regional economic value captured by producers vis-à-vis retailers. We believe that these evolutionary market and supply chain conditions are contingent upon the wider sets of relationships between the state, retailers, consumers and farmers, rather than any bland notion of ‘free’ or ‘supported’ markets.

In the UK in particular, and most probably in certain other EU Member States, the growth of organic food chains is largely *unregulated* outside the initial conversion and

production support structures. Yet, throughout most of the last century, policy-makers learnt that institutional support and regulation of marketing and retailing structures were important aspects of stable agro-food management. The experience of the past twenty years of food surpluses, food crises and support have made policy-makers reluctant to consider real innovations in new support structures which could foster innovative food supply chain developments. Moreover, the retailers have been allowed to partially set the policy as well as the economic context in which such innovations are considered (see Renting, Marsden and Banks, in press).

The current, and quite severe, oscillations which we have witnessed over recent years in organics represent a lack of policy-will to intervene in these market-led chains. Government regulation has only focussed upon conversion support (of varying lengths and degrees across Europe), and keeping a distant eye upon quality and certification procedures. It does very little to encourage consumption despite increasing calls for farmers to ‘compete on quality rather than price’ (see Curry Report, 2002) or effective and long-term marketing. Moreover, these limited policy moves have tended to treat retailer-led organics and alternative shorter supply chains (such as box schemes etc.) *as the same category*. The result is, in the UK at least, a somewhat peculiar mix of government production support with retailer-led private interest regulation of the rest of the supply chain.

In this context, as with many conventional food chains, retailers have both the competitive power and freedom to modulate the demands from consumers through the specific management of market access with their organic suppliers (see Competition Commission, 2000). Constraints on farm-gate prices can be placed both through the

variable and unreliable abilities of consumers to pay price premia on organic products, and through the growing competition organic products face from other 'green' lines such as 'the Little Red Tractor'<sup>4</sup>, welfare foods and so on, for supermarket shelf-space. The important point is that the retailer chains are able to manage these processes given their oligopolistic positioning in the supply chains relative to both farmers and processors. Moreover, in a market context where up to 70% of organic foods are sold through their stores, and an equivalent proportion is imported, retailers have a powerful position in the dynamic price-setting of different organic products. Further government incentives to increase conversion, while following a policy of non-intervention in the downstream supply chain, may only exacerbate these trends.<sup>5</sup>

Given the selective (production-based) and somewhat half-hearted (consumption-based) support by national governments, and the increasing competition between the main retailers as well as within their stores, from other green and quality categories, it is necessary to examine in much more detail the evolving construction of limits in both the production and consumption of organic chains. The value-added and rural development benefits between retailer-led organics and alternative 'shorter' chains deserve attention. Part of the obstacles for the further development of organics is the unregulated growth in internal competitive relationships between different organic chains and other green or value-added lines. There is only so much 'quality' food that consumers are prepared to buy, and if retailers are only prepared to treat organics as

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<sup>4</sup> The Little Red Tractor is the British Farm Standard trademark, see [www.littleredtractor.org.uk](http://www.littleredtractor.org.uk).

<sup>5</sup> Defra's (2002) Action Plan to Develop Organic Food and Farming in England (which post-dates this paper) begins, for the first time, to seriously address these supply chain and marketing issues.

just another type of quality food category, then it could remain as a ‘niche within a (more complex) niche.’

In this sense, the focus upon retailers and government suggests that both have contributed to the ‘constructed marginality’ and fracturing of organics, while at the same time, paradoxically, supporting its further development. Rather than promoting organic consumption as a full repertoire of food eating, drinking and lifestyle, it is much more beneficial for the retailers and government, for the time being at least, to manage it as just another food category which needs to compete with other food categories. This also reinforces a process of price setting and supplier selection which favours retailers over producers, particularly in the present context of what seems to be over-supply - due, in large part, to the lack of market access and somewhat shaky demand.

These conclusions have, we believe, important implications for rural development. They demonstrate that the newly emerging markets in organics are increasingly differentiated and potentially volatile - and that both of these tendencies can severely reduce ‘value-capture’ by the farm or the rural locality. It is these evolutionary dynamics of competitive supply chains which deserve more attention by both scholars and policy-makers if the first phase of what we might, with hindsight, term ‘optimistic productionism’ is to be followed by a more supportive organic food market framework and a more mature rural development perspective. Scholars have, so far, concerned themselves overduly with outlining the aggregate growth and potential of organics. A second phase of research needs to match the complexity of understanding the second phase of the business cycle - one where the economic

competition between actors for ‘value capture’ along differentiated supply chains becomes much more intense, and the demand-led rather than supply-led growth becomes much more the norm.

## **References**

Bagenal, S. (2001) ‘Marketing organic milk: Opportunity and challenge’, *Organic Livestock Farming*, Younie, D. and Wilkinson, J.M. (eds.). Chalcombe Publications, Lincoln.

Banks, J. and Marsden, T. K. (2001) ‘The Nature of Rural Development: the Organic Potential’, *Journal of Environmental Policy & Planning*, **3**, pp.103 - 121.

Bell, Dick (1999). ‘British food retailing: a comparative analysis’, *European Retail Digest*, no. 21, pp. 30–35.

CEC, (1991) ‘Council Regulation No 2092/91 on organic production’ *Official Journal of the European Communities*, **L198**, 1 -15.

CEC, (1992) ‘Council regulation No. 2078/92 on agricultural production methods compatible with the requirement of the protection of the environment and maintenance of the countryside’, Commission of the European Communities, Brussels.

Competition Commission, (2000) [www.competition-commission.org.uk](http://www.competition-commission.org.uk).

Curry Report, (2002) 'The Future of Farming', [www.defra.gov.uk](http://www.defra.gov.uk).

Datamonitor, (1999) *Natural & Organic Food and Drinks*, Datamonitor Europe, London.

DEFRA, (2002) 'Action Plan to Develop Organic Food and Farming in England', <http://www.defra.gov.uk/farm/organic/actionplan/actionplan.htm>

Fowler, S., Lampkin, N. and Midmore, P. (2000) 'Organic Farm Incomes in England and Wales 1995/96 - 1997/98', Aberystwyth: Welsh Institute of Rural Studies, University of Wales.

Iceland, (2000) Press Release: 07/06/2000, <http://www.iceland.co.uk>.

Iceland, (2000) Press Release: 19/10/2000, <http://www.iceland.co.uk>.

IMPACT Survey, (2001) 'Driving Forces of Rural Development in the EU, In IMPACT', Wageningen University (unpublished).

Jones, P. *et al.*, (2001) 'Retailing organic foods', *British Food Journal*, Vol. 103, No. 5, pp. 358-365.

J Sainsbury, (1997) 'Organic Food - a Growing Interest', <http://www.jsainsbury.com>

J Sainsbury, (1999) 'The first Internet SouRCe of organic information', Press Release, 18/08/1999, <http://www.jsainsbury.com>

Lampkin, N., Foster, C., Padel, S. and Midmore, P. (1997) 'The Policy and Regulatory Environment for Organic Farming in Europe', *Organic Farming in Europe: Economics and Policy*, Vol. 1., Hohenheim University, Hohenheim.

Lampkin, N., Measures, M. (1999) *Organic Farm Management Handbook*, 3<sup>rd</sup> edn, University of Wales, Aberystwyth.

Lampkin, N., Measures, M. (2001) *Organic Farm Management Handbook*, 4th edn, University of Wales, Aberystwyth.

Leaver, A. (2001) 'The Development of and Prospects for, the UK Organic Agricultural Sector', PhD. Thesis, Faculty of Social Sciences and Law, University of Manchester, Manchester (unpublished).

Marsden, T., Banks, J. and Bristow, G. (2002) 'The social management of rural nature: understanding agrarian-based rural development', *Environmental and Planning A*, **34**, 809 - 825.

Miele, M. (2001) 'Creating Sustainability: the social construction of the market for organic products', *Circle for Rural European Studies*, Wageningen University, Wageningen.

Miele, M. and Renting H. (eds.) *Organic Milestone*, (forthcoming).

Mintel, (1999) *Organic Food and Drink*, Mintel Report, November 1999.

Mintel, (2001) *Organic Food and Drink*, Mintel Report, November 2001.

Offermann, F. and Nieberg, H. (2000) *Economic Performance of Organic Farms in Europe. Organic Farming in Europe: Economics and Policy*, Vol. 5, University of Hohenheim, Hohenheim.

Promar, (1999) *From Sub-culture to Supermarket: Organic foods grow up*, Promar International, September 1999.

Renting, H., Marsden, T. K., and Banks, J. (in press), 'Alternative Food Networks and Institutional Innovation'.

Safeway, (2002) <http://www.safeway.co.uk>.

Smith, E. (2001) 'The Contested Domain of Profitability in Organic versus Conventional Farming in England and Wales, 1995/96 - 1997/98', CPLAN Working Paper Series, Cardiff University, Cardiff.

Smith, E. (2002) 'Ecological Modernisation and Organic Farming in the UK: Does it pay to be 'Green'?', Ph.D. Thesis, CPLAN, Cardiff University, Cardiff (unpublished).

Soil Association, (1999) *The Organic Food and Farming Report 1999*, The Soil Association, Bristol.

Soil Association, (2000) *Annual Report and Accounts 2000*, The Soil Association, Bristol.

Soil Association, (2001a) 'Eye on the Market,' *Organic Farming* #71, Soil Association, Bristol.

Soil Association, (2001b) *The Organic Food and Farming Report 2001*, The Soil Association, Bristol.

Soil Association, (2001c) 'Cautious welcome to Tesco's announcement on organic food', Press Release 01/10/2001, The Soil Association, Bristol.

Tesco, (2001) 'Organic Offers', News Release 28/1/2001, <http://www.Tesco.co.uk>.

Tesco, (2001) 'Tesco £1 billion organic challenge', Press Release 01/10/2001, <http://www.Tesco.co.uk>.

UKROFS, (2000) *UKROFS Standards for Organic Livestock Production*. United Kingdom Register of Organic Food Standards, London, August 2000.

Van der Ploeg, J. D. (2000) 'Revitalizing agriculture: Farming Economically as a Starting Ground for Rural Development', *Sociologia Ruralis* **40** (4), 497-511.

Waitrose, (2002) 'Organic Facts', <http://www.waitrose.co.uk>

Wier, M. and Calverley, C. (2002) 'Market potential for organic foods in Europe' *British Food Journal* **104** (1), 45 - 62.

Willer, H. and Yussefi, M. (2001) *Organic Agriculture Worldwide: Statistics and Future Prospects*, Stiftung Okologie & Landbau, Bad Durkheim.

Willer, H. and Yussefi, M. (2002) *Organic Agriculture Worldwide: Statistics and Future Prospects*, Stiftung Okologie & Landbau, Bad Durkheim.

World Organics News, 2002 'Tesco cut-price milk gamble may work', July 2002, Agra Europe, Kent.

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