Market research study into the market penetration of Scottish organic produce

Project SLA/001/04

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Executive summary

Background
The Scottish Organic Action Plan (OAP) published in February 2003, set out the Scottish Executive's actions in support of the development of the organic sector. This report has found that there is a large demand for Scottish organic produce within Scotland. However when the OAP report was published it was approximated that only 35% of the organic produce sold in Scotland were derived from domestic sources. The disproportionate amount of imports entering the Scottish marketplace prompted the Executive to encourage the Scottish organic sector to achieve its full potential and supply at least 70% of Scotland's demand for organic products with indigenous produce. It has been recognised that for the 70% target to be achieved, there is a need for supply network focussed research to establish current market penetration levels and enable the development of appropriate strategies to ensure that SEERAD achieves Organic Action Plan targets.

Aims
This project aims to meet the research requirements highlighted above. The report examines the levels of market penetration of organic food in Scotland and suggests strategies to increase sales of Scottish organic produce. The primary research carried out endeavoured to uncover the complexities of the supply networks in all sectors of the market.

Methods
The investigation used various techniques to develop a picture of the entire organic food market in Scotland. Questionnaires were posted to Scottish organic producers who had been in production for over a year. Organic processors and retailers were interviewed over the telephone. Taylor Nelson Sofres (TNS) were contracted to investigate the retail and consumption of organic food in Scotland. From the analysis of the survey results plus information from previous research an approximate penetration figure was calculated.

Results
It was found that accurate penetration is difficult to ascertain in a food supply system with a low level of traceability. However, some accurate data coupled with informed estimates have led the research team to calculate an overall penetration level for indigenous organic produce of 50%. Whilst this indicates that there has been progress in terms of improving levels of market penetration it is evident that substantial progress can still be made.

Key recommendations
Key recommendations to achieve higher levels of market penetration of indigenous organic produce are:-

- Primarily, steps should be taken to maintain the provenance of indigenous organic produce. Without this, it will be extremely difficult to improve on the

50% of market penetration highlighted in this report. When the appropriate structures and resources are put in place it is highly probable that demonstrable levels of market penetration can be significantly improved;
- the processing capacity of Scotland's organic supply network should be evaluated with a view to developing appropriate existing initiatives to further develop capacity or where commercially justified, create new capacity;
- systems for the systematic collection of data as regards the processing and sale of Scottish organic produce should be developed;
- multiple retailers active in Scotland should be encouraged to sell organic products with fully traceable Scottish provenance;
- producers should be encouraged to continue to work collaboratively and in addition further co-operation throughout Scotland's organic supply network should be fostered;
- producers should consider investing in the use of polytunnels to increase the growing season for some horticultural crops;
- further research and training should be invested in to identify and disseminate methods that will increase the overall production of organic horticultural crops (especially fruit and non-root crops) in Scotland;
- in line with previous recommendations[8] multiple and independent retailers could be encouraged to brand unprocessed organic produce with a Scottish label of origin;
- producers throughout the Scottish organic supply network should be encouraged to develop local, direct sales supply networks. Attempts should be made to tie these in with consumer initiatives with the aim of improving access to fresh and affordable organic produce for those on low incomes;
- a concerted effort is needed to inform consumers of the choices available to them as regards organic food and how these choices can have an impact on Scotland's environment;
- It must be stressed that any future activities and/or projects aimed at increasing levels of market penetration need to be holistic from their inception. They should encompass the entire supply network so that supply, processing and demand can be developed simultaneously, thus ensuring social, economic and environmental sustainability.

Survey results
Organic beef

Supplies from Scottish producers equate to approximately 9% of the all organic beef consumed in the UK. Scottish organic beef is traded freely throughout the UK resulting in a loss of provenance. However, the quality image associated with Scottish beef results in products being marketed as such - thus helping the sector to achieve a market penetration level of approximately 71%.

Organic lamb

The predominance of upland organic sheep production is primarily responsible for creating large seasonal variations in production. Scottish organic lamb is distributed throughout the whole of the UK and accounts for 38% of the UK's total organic lamb production. Overall market penetration is estimated to be 96%.

Organic pork
Cheap imports continue to threaten the UK organic pork industry, as multiple retailers focus on competing on price. The inadequacies of Scotland's organic pork processing infrastructure means that it is not possible to ensure that any of the organic pork produced in Scotland is returned to Scotland for sale. Consequently, it was impossible to calculate a level of market penetration for organic pork.

Table Birds
The majority of table birds in Scotland are reared under contract to supply the multiple retailers. Many of the multiples are also sourcing organic birds from Northern Ireland. Independent retailers source a majority of birds from England due to supermarket dominance of Scotland's organic table bird sector. The current level of market penetration is estimated to be 80%.

Organic eggs
The vast majority of organic eggs produced in Scotland are produced under contract for one processor. Domestic demand far outstrips supply, which results in as much as 40% of the organic eggs sold in Scotland being imported from England and Ireland. Therefore, penetration currently stands at approximately 60%.

Organic dairy
Sales of liquid organic milk have increased by over 230% in the past 24 months. Scottish organic milk producers are successfully achieving 100% penetration of liquid milk, which accounts for approximately 29% of organic dairy sales. Whilst the liquid milk market has achieved 100% penetration, processed dairy products such as yoghurt and cheese, sold through the multiple retailers tend to come from outwith Scotland. This reduces the overall market penetration for dairy products to approximately 40%.

Organic horticulture
Seasonality is one of the key factors controlling the penetration of Scottish organic fruit and vegetables. Results suggests that Scotland could comfortably supply consumers needs with up to 80 – 90% of indigenous root crops. This figure would continue to increase if the land area growing these crops was also increased. It is likely that for some products the 35% penetration level identified by SEERAD in their Organic Action Plan has not been improved upon. Consequently an overall penetration for organic vegetables is approximately 50%.

There is very limited fruit production in Scotland and as much as 70% of organic fruit consumed tends to be citrus/tropical. Consequently, penetration levels remain generally low. It is unlikely that a penetration level above 10% has been achieved which equates to an overall figure for indigenous organic fruit of 33%.

Organic Arable
Lack of facilities in Scotland for processing both animal feed and human food prevents high penetration levels. The complex network of processors and a

reluctance to divulge information makes calculating an exact penetration value difficult. However the market penetration for animal feed is approximately 50%. There is a similar problem with calculating figures for Scottish grain destined for human consumption. Estimations based on the processor survey would put penetration at 30%.

Aquaculture
There is high production and relatively low demand for Organic fish in Scotland suggesting 100% penetration is possible. However, at least one major multiple retailer in Scotland often stocks organic salmon of Irish origin, thus reducing the overall penetration level to approximately 90%.

Retail
Multiple retailers are showing growing enthusiasm for sourcing local indigenous produce. Due to changing supply relationships and customer confidentiality retailers were unable to give exact figures for the amount of produce sourced from within Scotland. The survey for independent retailers gave a figure of 56% of produce sourced from Scotland. Penetration levels for direct sales, box schemes and farmers markets are all high and represent an area of rapid growth which is diversifying quickly.

Consumer Survey
Higher income and smaller households are the largest organic purchasers in Scotland. It is also significant that the only real deterrent to purchasing Scottish organic goods is seen as price. Around 42% of the consumers surveyed in Scotland said that they would actively look for Scottish organic food and drink.

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1. Investigating Scotland's Organic Supply Network

1.0. Aims and objectives

The aim of the project is to investigate the level of market penetration of organic food produced in Scotland, and identify strategies for increasing sales of Scottish organic food. The report also contains information that will enable the Scottish Executive and key stakeholders to develop strategies to continue their role of supporting the organic industry in Scotland.

In order to investigate the market penetration of Scottish organic produce the project team used actor network theory* (ANT) to aid the conceptualisation of the research subject, the Scottish Organic Supply Network (SOSN). ANT does away with simplistic notions of supply chains and has increasingly attracted the interests of researchers investigating agri-food networks with different authors choosing to emphasise different aspects of the approach[9]. For the purposes of this project, ANT informed the methodology to ensure that all of the actors, whether they are producers, processors, distributors, retailers or consumers, who play a role in determining the size and value of the SOSN are included in the research. Additionally, whilst the final report differs little from a more traditional 'supply chain' focussed project, the term supply network is maintained to highlight the interconnectedness of all the actors (producers, processors, retailers and consumers) irrespective of which sector (red meat, poultry, dairy etc) they are involved in.

1.1. Methodology

The project involved secondary research in the form of a desk based literature review and three distinct areas of primary research including a postal survey of all producers, a telephone interview survey of processors and retailers and finally, consumer focussed research by Taylor Nelson Sofres Ltd. (for full methodology see Appendix I). The research was conducted between March and August 2005.

1.1.1. Surveys

The research team identified 632 producers. However 26 were new entrants and they would not have had any organic produce for sale during the 12-month period preceding the survey. Consequently, 606 questionnaires were posted to Scottish organic producers (see appendix II).

Organic processors and retailers were interviewed over the telephone. Over a ten-week period, approximately 150 processing businesses, 32 independent retailers and all of the multiple retailers project were contacted (see appendix III)

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* Actor network theory is an approach to research that looks to the relationality of actors and how they come to form networks that enable them to function. The notion of a network differs from that of a system or a supply chain in a number of ways. Networks:-
"are not self sustaining; they rely on hundreds of thousands people, machines, and codes to make the network. They are *collective*, that is their length and durability are woven between the capacities and practices of actants-in-relation. They are *hybrid*, combining people and devices and other living things in intricate and fallible ways in the performance of social practices. They are *situated*, inhabiting numerous nodes and sites in particular places and involving their own particular frictions (cultural and environmental) to network activity. And, finally, they are *partial* even as they are global, embracing surfaces without covering them, however long their reach"[26]

In order to gain complete coverage of the SOSN, Taylor Nelson Sofres (TNS) were contracted to investigate the retail and consumption of organic food in Scotland. They investigated consumer trends using their Superpanel data and 6 questions were included as part of an omnibus survey.

1.2. Report structure

The report is divided into 5 chapters. After the introductory chapter, chapter 2 presents a review of a number of studies and reports that summarise the current market for organic food in Europe, the UK and Scotland. Chapter 3 presents the results from the producer questionnaire and processor telephone surveys. Chapter 4 presents the results from the retailer survey, TNS's superpanel data and the results from their consumer focussed omnibus survey. Chapter 5 brings together the results from the previous chapters to calculate an overall market penetration figure for indigenous organic produce in Scotland.

1.3. Project limitations

As with all research projects of this nature, its successful completion is dependent upon the co-operation of the populations being surveyed and the accuracy and level of detail provided by the respondents. The nature of the data needed by the research team was deemed to be commercially sensitive by a significant number of producers and processors who subsequently refused to divulge the information required. This was especially apparent when investigating the producer – processor relationship with both parties being particularly reticent to reveal the quantities and range of products being traded and the nature of the agreement between them. This made it difficult to follow Scottish organic produce/crops from production through to retail and therefore impossible to develop precise market penetration figures. Consequently, levels of market penetration were calculated using information from each of the different strands of research and where necessary, by speaking with a range of stakeholders to check the research teams calculations.

This general reticence to divulge information and the limited time available for the project resulted in the research team not being able to map out Scotland's organic food supply networks as originally intended. Additionally, this also meant that it was not possible to fully investigate the nature of the relationships between different actors thus preventing ANT to be fully used in the way intended.

2. Background

2.0. Background
This section will provide the reader with information on the organic sector and present the findings of studies and reports that address issues relevant to the aims and objectives of the project. The Scottish Executives Organic Action Plan (OAP) is introduced, and there is a brief look at the European market for organic food and market information, next the UK market for organic food is detailed and finally Scotland's organic supply network is considered.

The OAP published in February 2003, set out the Scottish Executive's actions in support of the development of the organic sector. Through the aims outlined in the action plan, the Executive intend to see accelerated growth of organic farming where this can make the best contribution to environmental sustainability. The disproportionate amount of imports entering the Scottish organic marketplace prompted the Executive to encourage the Scottish organic sector to achieve its full potential and supply at least 70% of Scotland's demand for organic products with indigenous produce[*].

> "We want to see Scottish organic products grow in market penetration so that they can meet at least 70% by value of overall Scottish consumer demand for organic products which can be sourced in Scotland, as well as succeeding in broader UK and international markets"

The Action Plan also discussed improvements to the Organic Aid Scheme (OAS) and the promotion of a joined up organic food chain, developing the infrastructure required to increase access for indigenous organic products in Scotland.

2.1. Europe
2.1.1. European organic market
In 2004, the European market value for organic food was an estimated £8 billion and in the enlarged EU around 6 million hectares of land were managed to organic standards[1]. EU Member States have Governmental support through their individual organic action plans.

Additionally, the European Action Plan for Organic Food and Farming was published in 2004. In recognition of the public benefits of organic farming its central objective is to 'facilitate the ongoing development of organic farming in the EU'. It has been recognised that the organic market is at varying levels of development across Member States. Table 1.1 illustrates country status in terms of market maturity.

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[*] Indigenous produce is defined as food that can be produced under UK climatic conditions, including meat, dairy products, cereals, and fruit and vegetables,

Table 1.1.[2] Market maturity

Mature/established market countries	Growing market countries	Emerging market countries
Austria	Finland	Belgium
Denmark	Italy	Czech Republic
France	Netherlands	Greece
Germany	Norway	Ireland
Switzerland	Portugal	Slovenia
United Kingdom	Sweden	Spain

The future of the organic sector in Europe will continue to be affected by agricultural policy. The de-coupling of farm payments from production under the mid-term review of the Common Agricultural Policy (CAP) will have an impact on the development of the organic sector as it will across the entire food and farming arena.

2.1.2. Market information

It is apparent that there is a lack of obtainable market information on the production, demand, importation and export of organic food. Basic data such as number of certified organic holdings, land and cropping area does exist, as certification bodies are legally required to record and make this information available. However there is still no requirement to record or report livestock numbers on organic farms and consequently this information is not accessible for market information purposes. The lack of market information is a problem for producers, processors and traders as they are unable to identify opportunities within the market.

An EU group has been created to address this issue, with the aim of building a framework for reporting credible organic production and market statistics. The EISFOM-project (European Information System for Organic Markets) will act as the dissemination and discussion point for projects involved in market intelligence.

2.2. United Kingdom organic market

In 2004, the UK was ranked ninth in the world for registered organic land (686,101 hectares), with estimated organic retail sales of £1.213 billion and annual market growth of 11%[1]. Taylor Nelson Sofres (TNS) Superpanel data suggests that the market for organic products is concentrated within about 7% of UK households and that this is remaining static[4]. Within Europe, the UK continues to be the forerunner in terms of market growth.

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[4]TNS Superpanel is the UK's leading continuous consumer panel and provides purchasing information on all main grocery markets. 15,000 households participate which are demographically and regionally balanced to offer a representative picture of the UK marketplace. Data is collected twice weekly via electronic terminals in the home, All household members are asked to record details of purchases they make and bring into the home. The TNS Superpanel is an authoritative and recognised source of advertising effectiveness measurement.

According to the Soil Association Organic Market Report (2005), there has been mixed progress in increasing reliance on indigenous organic produce in the UK, with the overall market penetration of UK products remaining relatively static at 53%.

2.3. Scotland's organic Market

2.3.1. Scottish organic market – production

At the publication of the Scottish Organic Action Plan, approximately 35% of organic produce sold in Scotland were derived from domestic sources (Scottish Executive, Organic Action Plan). A target to match the conventional market of at least 70% has been set by the Executive. An increase in the area of arable land and improved grassland would be necessary to achieve this target but it is apparent that since the publication of the OAP, total organic land area in Scotland has declined.

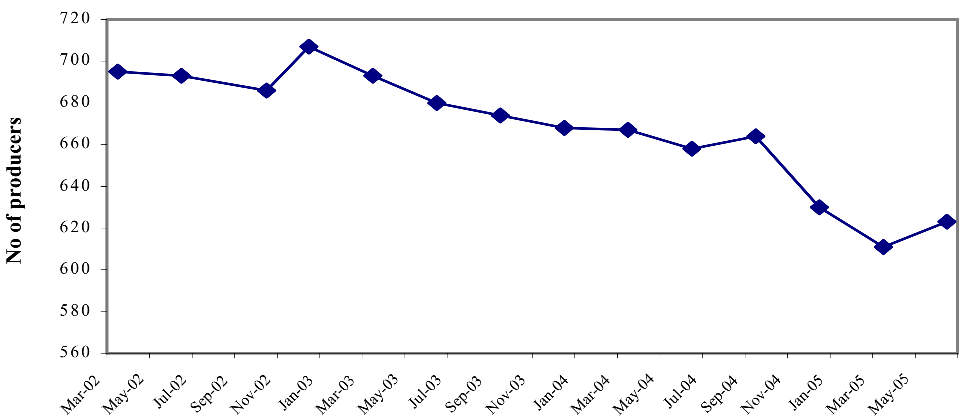
Between April 2003 and January 2005, the area of land managed organically in Scotland declined by 14% from 416,880 to 356,764 hectares (Table 1.2)[1]. The area of land under organic management now accounts for 55% of the UK's organically managed land and 6.5% of Scotland's farmed area compared to 3.7% for the UK as a whole[1].

Table 1.2. Organic land in Scotland (hectares)

	April 2002	April 2003	April 2004	January 2005
TOTAL	415,500	416,880	373,249	356,764
In conversion	145,500	116,639	16,523	12,490
Organic	270,000	300,240	356,725	344,274

Figure 1.1, illustrates the trend in producer numbers over the last four years. During this time, the number of registered organic producers in Scotland fell from 695 to 625, a 10% decline.

Figure 1.1. Number of organic producers in Scotland

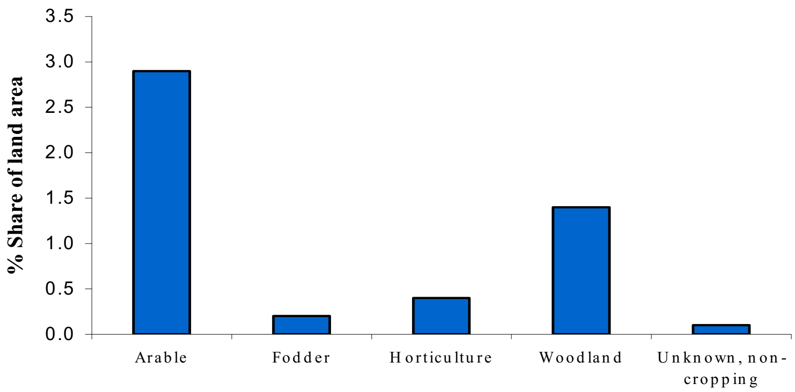


Information source: SAC, 2005 (data from organic certification bodies)

This decline in organically managed land area and in the number of registered organic producers can be attributed to a number of factors. However, it is apparent that some producers who came to the end of their five year Organic Aid Scheme agreements and failed to see the expected premiums for their organic produce have come out of organic production. Additionally the introduction of single farm payments caused an amount of uncertainty throughout the agricultural sector, which had the side effect of reducing the numbers of producers going into conversion.

Information collected by DEFRA for 2004 shows that 95% of the organically managed land in Scotland is grassland. Figure 1.2 illustrates how the remaining 5% is split among the different enterprises.

Figure 1.2. Organic land use in Scotland 2004/2005

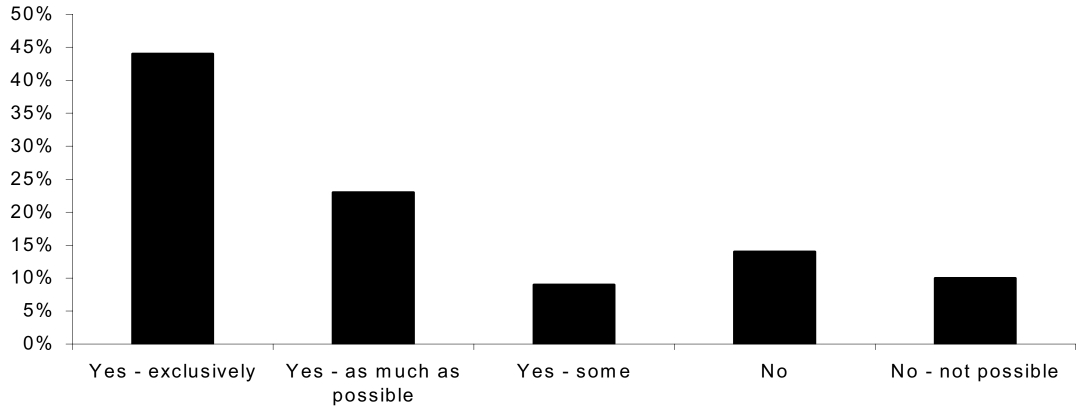


2.3.2. Scottish organic market - processing

To gain an understanding of Scotland's organic sector, the Soil Association undertook a project funded by Scottish Food and Drink; Organic Supply Chain Development: Processor Project. The project aimed to identify gaps within the supply chain infrastructure. During 2004, around 100 companies were interviewed to explore the issues they faced. Two of the issues raised were difficulties in sourcing Scottish organic ingredients and problems marketing goods through different distribution channels.

Figure 1.3 and Table 1.4 have been extracted from the Organic Supply Chain Development Project and highlight the trends relating to the sourcing of organic ingredients in Scotland. Almost half the businesses contacted claimed to source exclusively in Scotland and almost a quarter claimed to source everything they possibly could in Scotland.

Figure 1.3. [7] Processors use of Scottish organic ingredients



The participants were asked to identify what barriers they encountered when sourcing Scottish organic ingredients. Table 1.3. illustrates the responses from the processors.

Table 1.3.[7] Barriers to sourcing Scottish organic ingredients

Barriers to sourcing locally – ranked	**Percentage**
Availability	82
Seasonality	29
Price	15
Logistics	12
Local under-supply	9
Supplier relationships	6
Source via processor	6
Quality	3
Consistency	3
Pressure from consumer/ customer	3

It was documented that there is a lack of intermediate processing, specifically meat handling/cutting for organic producers in Scotland. For example, many abattoirs are tied to contracts and are unable or unwilling to accommodate smaller producer/processor demands.

2.3.3. Scotland's organic market - multiple retailers

Whilst investigating the Scottish organic supply network it is necessary to consider where consumers purchase organic produce. In Scotland Tesco dominates organic retail sales with a 38% share of all organic produce sold through the multiple retailers, Sainsburys have a 15% share of the market, and Asda and Morrisons account for 13.7% and 13.3% respectively (for full details see section 4.1.1).

2.3.4. Scotland's organic market - direct sales
Direct sales account for approximately 12% of organic sales in the UK[1] but there are no statistics available that relate directly to Scotland. However, interest in alternative market outlets has risen. For example, since the first farmers market was held in Perth in June 1999, farmers markets have increased in popularity and the number of markets throughout Scotland has increased to 55. On average, sales of organic produce at farmers market account for between 10% and 15% of the markets turnover.

As an alternative outlet, these markets provide the ideal platform for direct sales and building business opportunities. The consumer project conducted by SAC in 2003 highlighted the importance of contact between the farmers and growers with their consumers[11]. This interaction generates trust and goes some way to addressing consumer needs for information on food provenance.

2.3.5. Consumption of organic food in Scotland
According to TNS data in December 2004 (see appendix III), 5.4% of all purchases of organic food in the UK were made in Scotland, equating to a market value of £65 million. Additionally, TNS carried out a UK wide study in 2003, which looked at consumer triggers for buying organic food[5]. TNS reported the following findings relating to Scottish organic consumers;

- 64% are more likely to purchase organic products from Scotland;
- 67% are prepared to pay more for Scottish organic produce;
- 31% would not pay more for Scottish organic produce.

In 2003, Mintel[6], surveyed over 600 UK consumers and established the following statistics relating to Scottish organic consumers;

- 64% purchase organic vegetables (highest equal with London);
- 49% purchase organic fruit;
- Only 19% purchase organic meat (this may be indicative of the fact that many consumers perceive Scottish meat as being as good as organic anyway, leaving little room for organic meat to differentiate enough to lure meat buyers).

In 2003 the SAC conducted 300 face to face interviews in Aberdeen, Edinburgh and Glasgow. It was found that organic consumers tend to be occasional 'dippers' choosing organic infrequently. Among the findings, product quality, availability, range and choice mostly influenced purchasers. It was noted that price was a major factor hindering an increase in organic food sales. Many consumers felt the cost of organic fresh foods was beyond their financial capability. This behaviour has implications in terms of understanding the market and businesses planning for producers, processors and retailers in the organic sector.

2.3.6. Developing the market for organic food in Scotland
Since the publication of the Organic Action Plan, a number of initiatives have been commissioned in Scotland. For example, the creation of an 'Organic Zone' on the Scottish Enterprise Food and Drink website, which helps to raise the profile of, dedicated organic businesses.

A recently published report commissioned by SEERAD focused on key areas where further research is needed to help organic producers in Scotland. The report by SQW and ADAS, conducted between June 2003 and March 2004, highlighted the lack of market information across the supply chain. Shortly after the publication of this report, funding was awarded to Scottish Agricultural College (SAC) to employ an individual for the post of Organic Market Link Co-ordinator (OMLC). The primary function of the OMLC is to gather data on production levels and availability within the Scottish organic red meat and arable sectors. Additionally, they also act as a central point for the collection and generation of supply and demand information for farmers, growers and processors.

2.3.7. A Scottish organic brand

To help consumers choose Scottish produce and create the demand necessary to reach the targeted penetration levels, it has been suggested that there is a need to address the branding of indigenous organic products. As part of a Scottish Food and Drink Organic Project, the issue of branding was considered with the major stakeholders. Additionally, working with other organic certification bodies, the Soil Association created a Scottish organic logo with associated standards. However, as yet, there is still no Scottish organic brand that distinguishes indigenous produce from imports.

One of the difficulties identified by the stakeholders and thus preventing the creation of a Scottish organic logo, came from multiple ingredient products forcing the consideration of how to define products of 'Scottish' origin. The SQW ADAS research report[8] suggests that it is possible for multiples and independents to brand unprocessed organic produce with a Scottish label of origin, side-stepping the issues surrounding multiple ingredient products.

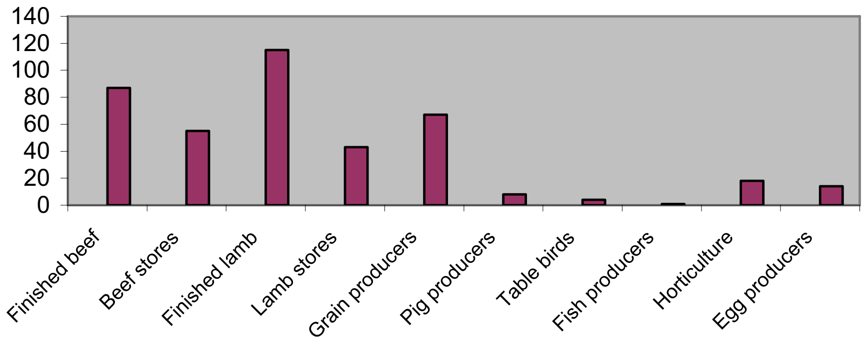
Whilst it is evident that with help from SEERAD, Scotland's organic sector is continuing to grow, it is not clear if these efforts are resulting in higher levels of penetration for indigenous organic produce. The next chapter will present information specifically relating to each of the different sectors and results of three separate but not mutually exclusive surveys conducted by the research team. Each will provide a benchmark figure from which future developments can be measured. The results will then be discussed and a number of strategies suggested with the aim of helping SEERAD to incorporate the Scottish Executives Organic Action Plan targets in the development of the organic sector.

3. Results

3.0. Survey results

From the producer survey, 258 questionnaires were returned, - a response rate of 42.5%. Figure 3.1. illustrates responses by sector. Nearly half (49%) of the respondents were involved in finishing beef and lamb with an additional 24% engaged in supplying beef and lamb stores. This highlights the importance of beef and lamb in the Scottish organic supply network. A further 16% produce grain, 4% are involved in horticulture, 3% egg production, 2% pigs, 1% table birds and 0.2% aquaculture. Some of the respondents were engaged in a number of different activities. On average, respondents were involved in 1.6 different enterprises.

Figure 3.1 Total number of responses from organic producers - by sector



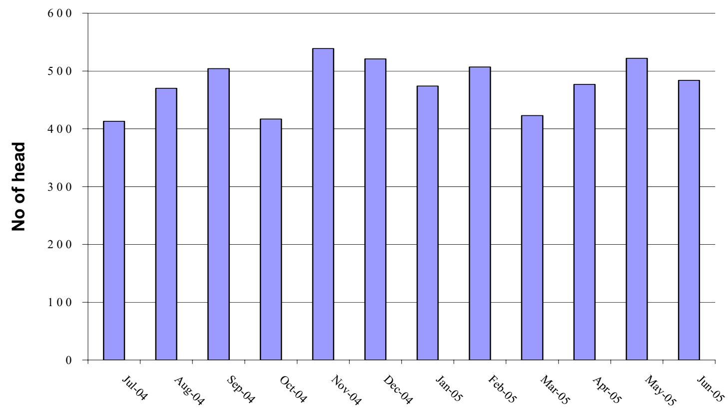
3.1. Organic beef

The volume of UK beef marketed as organic continues to grow and overall sales of organic beef increased by 23.3% in the year to April 2004. However, import levels increased to 63%[1] over the same period. In terms of supply and demand these levels of imports are unnecessary, as UK production would be able to cater for a much higher percentage of the market share. However, issues within the supply network result in an amount of organic beef being sold as non organic[14].

The Organic Market Link Project (2004)[19] found that between July 2003 and June 2004, 3,717 organic cattle were slaughtered in Scotland and it was predicted that 5,751 would be slaughtered between July 2004 and June 2005, more than a quarter of all organic beef cattle finished in the UK (19,284[1]).

Figure 3.2 illustrates the predicted finished cattle production levels (July 2004 – June 2005)[19] demonstrating that throughout the year supply remains fairly constant, avoiding seasonal shortages or gluts. However, it is uncertain how this transpires into numbers of slaughtered organic cattle as only those that are needed to meet demand will be slaughtered. Consequently, many will be left on farm as seen throughout the UK in 2005.

Figure 3.2. Finished organic beef produced in Scotland



Source: SAC, OML survey, 2005[19]

3.1.1. Survey results - Volumes and market outlets

From the survey information gathered last year by the OML project and this year by the project team, it is possible to gain a valuable insight into the value and market penetration of organic cattle in Scotland.

The survey conducted for the purposes of this project elicited responses from 60 producers who rear store cattle and 75 producers involved in finishing beef. For the year July 2004 to June 2005, they account for a total of 2,517 stores and 2,792 finished cattle, 49% of the predicted number of finished cattle. The survey results are therefore assumed to be representative of the entire population.

3.1.2. Direct to processor

The survey shows that 80% of the finished cattle were sold direct to a processor for slaughter, butchery and sale. Just over 48% were sold to abattoirs in England, 15% to Scottish abattoirs, with the remaining 17% being sold through outlets with an unknown location, for example via non organic auction market (table 3.1).

Table 3.1. Outlet volume by location, 2004 -2005

Outlet location	Percentage share of Scottish organic beef
Abattoirs - England	48%
Abattoirs - Scotland	15%
Abattoirs - Unknown	17%
Scotland - direct	15%
Scotland – independent retailers	5%

Despite the fact that 48% of Scotland's organic beef is sold to processors in England for slaughter a proportion of this meat may be returned to Scotland for further processing. For example, more than 11% of Scotland's organic beef is sold to Dawn Meats, who use slaughter facilities in England and a cutting plant in Ayrshire for some of the organic carcass for retail.

Scottish processors sold around 80% of their organic beef to supermarkets. A significant proportion of beef processed is also sent back to producers for sale (15%). The rest of the organic beef handled by processors in Scotland was sold to independent retailers. Producers received a range of prices for their beef of between £2.00 and £2.70 per kilo (dead weight) when selling to processors.

3.1.3. Direct to consumer

Whilst processors buy the vast majority of finished organic beef before it goes on for further processing or retail, there are a number of producers engaged in direct sales. For example, direct and local sales (farmers markets, farm shops, box schemes) accounted for 12% and mail order 3%, of all Scottish finished cattle. Sales to independent retailers account for the remaining organic beef – approximately 5% of the organic beef processed in Scotland.

3.1.4. Value at farm gate

In the year to July 2005 the farm gate value for organic cattle in Scotland was an estimated £4 million. Not all of the finished organic cattle will have been sold as organic. The majority of Scottish organic cattle produced are sold to processors that in turn supply the multiple retailers. However, the number of producers are selling meat either direct to customers through mail order, box schemes and farmers markets, or to independent retailers is increasing. The survey found that over 300 cattle were marketed through alternative (non-multiple retailers) routes which could equate to as many as 600 being sold this way during 2004/05.

3.1.5. Penetration

Supplies from Scottish producers equate to more than a quarter of the UK's organic beef production or approximately 9% of the organic beef consumed in the UK. According to TNS research carried out on behalf of the research team (see section 4) Scottish consumers represent only 5.4% of the UK's retail value of organic food and therefore Scotland's organic beef sector has the potential to meet domestic consumer demand, thus achieving 100% market penetration.

However, the results of the survey suggest that not all of the organic beef produced in Scotland is processed or sold in Scotland. The survey suggests that 35% of the organic beef produced in Scotland remains in Scotland for sale (processed within Scotland 15%, direct sales 15% and sales through independent retailers 5%) equating to 2,012 carcasses or 71% of the organic beef consumed in Scotland (see appendix I). Therefore market penetration currently stands at approximately 71%.

3.1.6. Summary:

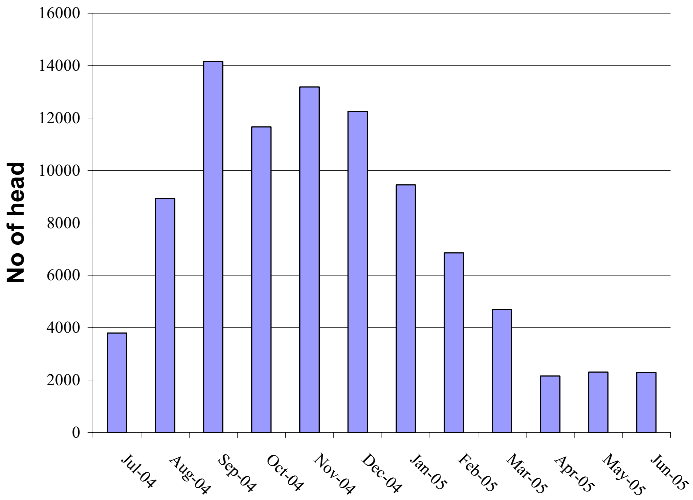
- In the year to July 2005 an estimated 5, 750 organic cattle were produced in Scotland, worth an estimated £4 million at farm gate;
- During 2004, 37% of organic beef sold by UK retailers was produced in the UK;
- The market penetration level of Scottish organic beef is currently an estimated 71%;
- Approximately 20% of Scottish organic beef is sold through direct or independent channels with the remainder being sold through the multiple retailers but not necessarily as Scottish.

3.2. Organic lamb

Seasonal production of lamb has an inevitable knock on effect on the level of imports required to meet consumer demands. The majority of organic lamb imported into the UK comes from New Zealand. In 2004 the numbers available from New Zealand were lower than usual and the cost higher, resulting in more UK sourcing. UK organic lamb supplies are failing to meet out of season demands, so imports are relied on to fill the gaps. According to the British Retail Consortium, 89% of organic lamb sold through multiple retailers in 2004, was sourced from the UK[15].

Before market information started to be systematically gathered by the OML project, previous estimates for annual Scottish organic lamb numbers ranged from 120,000 to 163,000[19] many of which would have been sold as stores and finished outwith Scotland, or sold into the non-organic market. The OML project found that between July 2003 and June 2004, approximately 74,800 organic lambs were finished in Scotland and it was predicted that 91,700 organic lambs would be finished between July 2004 and June 2005. Due to the seasonal concentration of production at certain times of year, lambs coming onto the market exceed retail demand. Consequently, 35% were sold as non organic with the remainder (60,000) being sold as organic, accounting for 38% of the UK's total organic lamb production of 158,912[1]. Figure 3.3. illustrates the production cycle of organic lambs between July 2004 and June 2005[19].

Figure 3.3. Finished organic lamb produced in Scotland between July 04 and June 05



Source: SAC, OML survey, 2005[19]

Figure 3.3. shows that the market is inundated with finished lambs from September to December. The predominance of upland organic sheep production is primarily responsible for this glut in the market. Farmers aim to have lambs finished from grass and off the farm before winter because of the additional costs involved in keeping lambs late into the season. If the supply of organic lambs can be spread more evenly through the year, despite associated costs it is likely to provide better annual returns for producers. This can be achieved by later lambing where appropriate, better co-ordination of store lamb sales to finishers and better collaboration throughout the supply network.

3.2.1. Survey results– volumes and market outlets

The survey conducted for the purposes of this project elicited responses from 44 producers who rear store lambs and 122 producers involved in finishing lambs. For the year July 2004 to June 2005, they account for a total of 16,810 stores and 64,274 finished lambs, 71% of the predicted number of finished organic lambs in Scotland. Of the 122 producers involved in finishing lambs, 77 provided details of their market outlets, which accounted for 52% (33,742) of the reported finished organic lambs. The survey results can therefore be assumed to be representative of the entire population.

Of these, 92% were sold direct to a processor, 5% were sold through 'other' outlets, including a range of butchers and the non-organic markets and the remaining 3% were sold through direct sales, farmers markets (1.1%), via mail order (0.8%) and farm shops (0.5%)

3.2.2. Direct to processors

The survey shows that approximately 92% of the lamb produced in Scotland is sold directly to abattoirs. Of this, a large proportion (over 90% of the total) was sold on to supermarkets. It is unclear exactly where Scottish organic lamb is sold by the multiple-retailers but it is apparent that Scottish organic lamb is sold throughout the U.K. A small proportion, approximately 2% (of the total) was sold to independent retailers and the remainder was sent back to producers for further processing and/or sale.

Scottish abattoirs procured over 85 % of the Scottish organic lambs during July 2004 and June 2005, the remaining 7 % being sold to companies based outside of Scotland. Although the majority are slaughtered or procured in Scotland, further processing and marketing of the end product is often done outwith Scotland (total amounts are unknown).

The seasonal variation in production levels is reflected in the price paid by abattoirs for finished organic lamb. Throughout the year, producers received an average of £2.64 per kilo with the price reaching a high of £3.30 and a low of £2.15 per kilo.

3.2.3. Direct to consumer

The survey results suggest that the 'direct market' accounts for 3% of sales (by weight). Producers may be missing out on a very lucrative market outlet with the average price received for organic lamb sold directly being £4.90 per kilo but additional associated costs such as killing and cutting must be taken into account. Prices received by the respondents range from a peak of £8.00 to a low value of £1.20 per kilo for lamb sold as non-organic through a farmers market.

3.2.4. Value at farm gate

The farm gate value for organic lamb, sold as organic, during June 2004 and July 2005 was an estimated £3.3 million. When there is a lull in supply in the spring (March to June), the price paid to producers is approximately 25% higher than the annual average. However the costs of production are also greater during this same period so profits will remain at a similar level. Obviously the price received by producers would improve if all of their lambs were sold with an organic premium rather than as non organic.

3.2.5. Penetration

Traditionally lamb is an exported product with production far exceeding domestic demand. According to TNS research carried out on behalf of the research team (see section 4) Scottish consumers represent only 5.4% of the UK's retail value of organic food, which equates to an estimated demand equivalent to 9,500 lambs per year. The survey suggests that 90% of Scottish organic lambs are sold around the UK through supermarkets with complete loss of provenance. Based on feedback from processors, retailers and stakeholders, including direct sales and sales through independent retailers, it is estimated that 30% (18,000 lambs) remain in Scotland for retail and further processing. Therefore, it is feasible that market penetration for organic lamb is 100%. However, whilst demand for organic lamb remains constant throughout the year, production does not. Subsequently, during the months April, May and June when production is at its lowest, there is likely to be a shortfall resulting in an overall market penetration level of 96%.

3.2.6. Summary

- Of the 91,000 organic lambs finished in Scotland, an estimated 65% were sold into the organic market from July 2004 – June 2005;
- Between July 2004 and June 2005, Scotland supplied 36% of all organic lambs slaughtered and sold as organic in the UK;
- During 2004, multiple retailers imported 11% of the organic lamb sold in the UK;
- Farm gate value for organic lamb, sold as organic, in Scotland for 2004/05 season is an estimated £3.3 million;
- Scottish organic lamb has achieved 96% market penetration.

3.3. Organic Pork

During 2004, total UK imports of fresh pork (organic and non-organic) rose by 50 % and processed pork products by 14% in 2003 and 2% in 2004 [16]. Imports of organic pork increased from 33% in 2003, to 50% in 2004.

Retail sales of organic pork have continued to increase albeit at a slower rate than beef and lamb, but not at a rate quick enough to sustain domestic production, which has declined as a consequence.

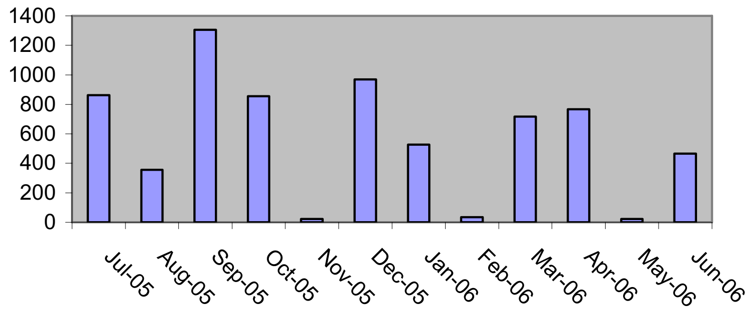
Due to a difference between UK and European organic standards, it is more costly to produce organic pork in the UK (UK organic pigs have a requirement to spend more of their lives outdoors). Retailers are able to reduce costs by importing organic pork even though UK production could meet demand, resulting in the relatively high levels of imports seen in the UK.

3.3.1. Survey results – volumes

The survey elicited responses from 10 producers who are involved in the production of organic pigs in Scotland. The respondents were reluctant to disclose production, marketing and price details. However, the processor survey indicates that during the year July 2004 to June 2005, approximately 17,000 weaners were produced in Scotland, equating to more than a third of the UK's total (47,000)[1], the majority of which (10,000) are then transported to England for finishing.

For the year July 2005 to June 2006, respondents predicted that they would have a total of 6,905 finished organic pigs available for sale. It is clear that a small number of relatively large producers who are under contract, account for the majority of organic pigs reared in Scotland. These producers are rearing on a batch system resulting in the peaks seen in figure 3.4.

Figure 3.4. Predicted finished organic pigs produced in Scotland



3.3.2. Market outlets

The survey suggests that approximately two thirds of organic pigs reared in Scotland are exported to England for finishing. Of the remaining 7,000 pigs, the vast majority, (96%) are produced under contracts and sold through the multiple retailers. A large proportion of this pork, which is sold to the multiple retailers is processed elsewhere in the UK, usually long distances from where it was produced. It is unclear whether any of this pork is returned to Scotland for sale or for further processing. Of the Scottish pork that is processed in Scotland the vast majority is sold to the multiple chains.

Unlike conventionally produced Scottish pork that is commonly sold as Scottish, organic pork is not sold with a label of origin and therefore its provenance is lost. This, in practice, makes the origin of the product irrelevant for the retailer as it will have no bearing on consumer demand. Additionally, as well as pork being exported for multiple-retail sales it is clear that around 2000 organic pigs are imported into Scotland for processing and sale, further reducing opportunities to increase market penetration.

Around 3% of the total sold from Scottish abattoirs is sold to independent retailers. The remaining pork is sold to food services and direct to consumers (table 3.2.). The general trend seen below was found in results from both the processor and producer surveys.

Table 3.2. Market outlets for Scottish organic pork products

Market Outlet	% Share
Multiple Retailers	96%
Independent Retailers	3%
Food Service	0.4%
Direct Sales	0.6%

It is clear that the direct sales market for pork products is not as well established as the red meat sectors. The high proportion of pork being sold to the multiple retail sectors makes sourcing Scottish organic pork a difficulty for many small suppliers. However the premium for meat in the direct sales market suggest that if producers are able to invest in processing facilities (with all the associated costs), they may be able to develop more local and direct marketing networks, but only if supply network challenges can be overcome.

3.3.3. Penetration

The results of the survey show that, as is seen with organic beef and lamb, organic pork produced in Scotland is traded freely throughout the UK and its provenance is lost. Therefore it is extremely difficult to establish definite market penetration levels for Scottish organic pork, or without branding and infrastructural developments, to develop strategies to increase these levels.

The British Retail Consortium estimates that 39% of organic bacon/ham products and 50% of organic fresh pork sold by multiple retailers is sourced from UK. Scotland's organic pig production equates to 33% of the UK's weaner production and 14% of the UK's finished pig production. An additional 2,000 are imported directly to a Scottish processor to satisfy retailers needs.

TNS figures suggest that Scottish consumers account for 5.4% of the UK's total spend on organic food. Scotland currently produces 15% of the UK's finished organic pork or 7.5% of the total organic amount of pork consumed in the UK. Therefore Scotland has the potential to reach 100% market penetration for organic pork. However, a number of factors prevent this from happening. Chiefly, the inadequacies of Scotland's organic pork processing infrastructure means that it is not possible to ensure that any Scottish organic pork is returned to Scotland for retail. Additionally, the absence of any country of origin branding prevents retailers and ultimately consumers from being able to choose Scottish organic pork. The unnecessary importation of an additional 2,000 organic pigs highlights the inadequacies of the sectors processing capabilities. After discussion with stakeholders it has become clear that whilst some Scottish organic pork may be retailed in Scotland, there is no way of ensuring that this happens and therefore it is impossible to calculate a level of market penetration for organic pork.

3.3.4. Summary

- In the UK, 50 % of the organic pork sold by multiple retailers is imported;
- Scotland's organic pig sector produces 33% of the UK's weaners and 15% of finished organic pigs;
- Scotland produces enough finished organic pigs to reach 100% market penetration;
- it is impossible to calculate a level of market penetration for organic pork.;
- In order for the levels of market penetration to increase, there is a need for greater traceability that will enable separation from the rest of the UK's supply network. Only then can provenance be maintained and market penetration levels improved.

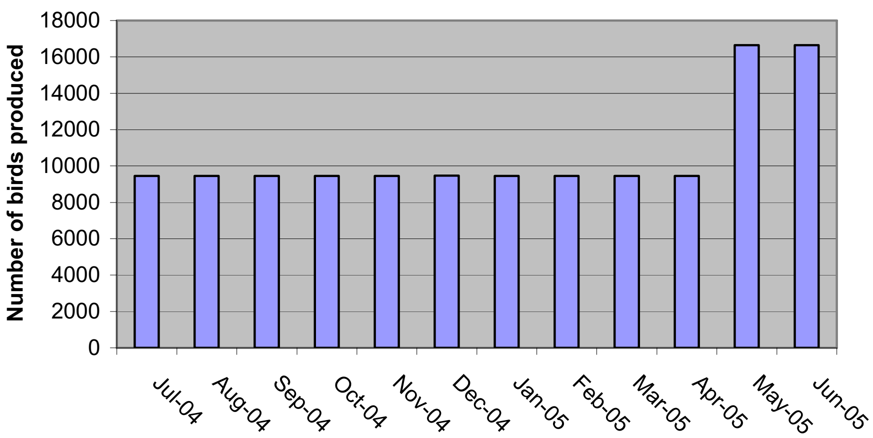
3.4. Organic table birds
During 2003/04, the UK production of organic table birds expanded faster than the organic red meat sector as a whole[1]. In the nine months since April 2004, organic table bird production increased by 36% to an estimated 5.7 million birds. In addition, the British Retail Consortium estimates that the multiple retailers are buying 100% of their organic poultry from the UK.

3.4.1. Survey results - volumes and market outlets
There is no historical data on the size of the Scottish organic poultry sector so it is not possible to evaluate sector growth. The survey elicited five responses from producers who were engaged in rearing organic table birds but one of these refused to divulge production figures to the research team.

For the year July 2004 to June 2005, the four remaining producers accounted for a total of 127,811 organic table birds, approximately 51% of the sectors total production of 250,000 found to be slaughtered in Scotland through the processor survey. The survey results can therefore be assumed to be representative of the entire population.

Production is constant with little variation month on month (figure 3.5). However, there was a near doubling of production during May and June of 2005. This is due to one producer substantially increasing production to meet the demands of a multiple retailer.

Figure 3.5: Organic table birds produced in Scotland



An estimated 99.5 % were sold through multiple retailers with the remainder being sold through independent retailers and direct sales outlets (see table 3.3). The multiple retailer's clearly dominate the Scottish organic table bird supply network. One multiple sources 100% of its poultry in Scotland and labels it as such.

Table 3.3. Market outlets for Scottish organic table birds

Market Outlet	% Share
Multiple retailers	99.5%
Direct sales	0.3%
Independent retailers	0.2%

Direct sales outlets have experienced a rapid increase in demand for organic poultry, including ducks, geese and turkeys. However, this significant potential market has yet to be fully realised. There are a number of factors preventing this from happening including; limited technical skills, a lack of licensed processing facilities for small numbers of birds and the multiple retailers dominance of the market which through high demand is essentially preventing the sector from developing.

The multiple retailers are able to offer producers a high volume, consistent and definite outlet for their produce, whereas direct sales through for example, farmers markets can be sporadic. Subsequently when faced with the choice, producers have chosen the multiples which has had the effect of significantly reducing the number of Scottish organic table birds available for direct sales. Correspondingly, independent retailers are also not able to source enough to meet customer demand. Retailers in Edinburgh have been forced to source organic table birds from Berkshire, England (Sheepdrove Organic Farm), as this is their only means of securing a reliable supply.

3.4.2. Value at farm gate

It is difficult to calculate a farm gate value for organic table birds because farmers raising table birds under contractual agreement receive an average £1.25 per bird whereas the estimated retail value is approximately £9 per bird (or £4.50/kg). However, producers who grow birds under contract do not have to pay for some overheads such as feed or veterinary treatments, as the contractor supplies these services to the producer. Consequently, the contract price for organic table birds does not reflect the true value of these birds to the producer.

Therefore, for the purposes of this report the farm gate value of organic table birds has been calculated using the assumption that the average farm gate price is £4.50/kg for an average 2kg-table bird. It is estimated that the farm gate value of Scottish organic table birds is £2.3 million, approximately 4.5 % of the UK's organic poultry industry.

3.4.3. Penetration

With the exception of Christmas turkeys and geese, table birds are not subject to seasonal fluctuations in supply and demand. The majority of chickens are reared under contract to supply the multiple retailers and one multiple retailer brands the birds as 'Scottish'. However, some of the multiple retailers are sourcing additional organic table birds from Northern Ireland and due to a lack of supply, independent retailers source approximately 90% of their table birds from England. Without the presence of organic processing plants that are prepared to handle birds to be returned to the producer or sold to independent retailers, there will continue to be a shortfall in supply.

It is estimated that currently, market penetration levels for organic table birds are 80%. However, demand for organic poultry has increased dramatically[1] and if production and processing capacity is not increased there will continue to be a shortfall in the supply of organic table birds in Scotland, with a subsequent decrease in overall market penetration as products from outwith Scotland are imported.

3.4.4. Summary

- During 2004, approximately 250,700 organic table birds were produced in Scotland;
- Multiple retailers have a 99.5% share of the Scottish market;
- Lack of processing facilities is hindering the development of the sector;
- Demand for poultry, through the multiple retailers, direct sales and independent retailers, is not being met by Scottish suppliers;
- Current penetration levels are approximately 80%;
- As with pork, more certified abattoirs that are accessible to producers are needed to process organic table birds for the direct sales/independent market.

3.5. Organic eggs

According to the British Egg Information Service (BEIS), approximately 66% of eggs produced in the UK come from hens reared in the laying-cage system. A further 24% are from free-range systems, and just 3% of the total eggs produced are organic, with a retail value of £17 million (See table 3.4.). However, sales figures as high as £19 million have been reported[21].

Table 3.4. UK Egg market (2004)

Egg production system	2004 market share (percentage)	2004 retail value (£)
Laying cage	66	£374,880,000
Free range	24	£136,320,000
Barn	7	£39,760,000
Organic	**3**	**£17,040,000**

3.5.1. Traceability

New European legislation was introduced on 1st January 2004 requiring all Class A eggs to be stamped with a producer code that will identify the production method to the consumer and the farm of origin to competent authorities. The code will help to inform the consumer of how their eggs have been produced. In Scotland, with support from Scottish egg producers, eggs will have the mandatory suffix 'SCO' included in the egg producer code. However, egg producers that sell their produce from the farm gate or locally door-to-door are exempt from stamping eggs as it is assumed that the origin is already known[18].

This change to EU legislation will enable consumers to choose Scottish eggs. However, the Scottish Egg Producers Retailers Association (SEPRA) estimate that indigenous egg production caters for 60% of their total daily egg requirements. The remaining 40% are imported, mainly from Northern Ireland and England followed by EU producers, such as Holland, France, Belgium and Spain. It is apparent that the organic sector has similar levels of imports.

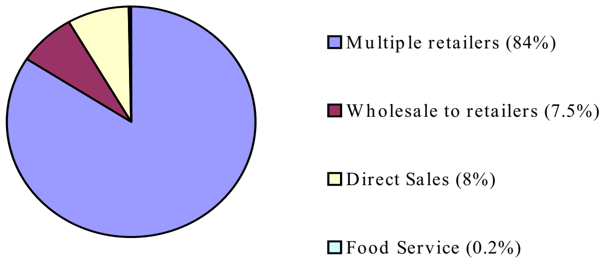
3.5.2. Survey results – volumes and market outlets

The survey elicited 17 responses from producers engaged in the production of organic eggs. They accounted for a total of 1,060,000 organic eggs produced by approximately 3,700 laying hens between July 2004 and June 2005. However, the processor survey suggests that this is a gross under estimation of organic egg production in Scotland.

Results from the processor survey suggest that over the same 12 month period, the number of organic laying hens in Scotland increased to 44,000 producing 13 million eggs per year equating to a farm gate value of £1.3 million.

The survey suggests that the majority of the organic eggs produced in Scotland are sold through the multiples (84%), with a further 7.5% going through wholesalers to independent retailers, 8% through direct sales and the remainder to the food service.

Figure 3.6. Scottish ogranic egg outlets (by value)



More than 80% of Scotland's organic eggs are sold to a central distributor who in turn supplies the multiple retailers. The distributor had existing contacts with multiple retailers for non-organic eggs and therefore, is now able to supply them with the full range of egg varieties required.

The 'distributor' is the hub of the organic egg supply network providing producers with access to a growing market. This relationship forms a buffer between the producers and the market, reducing the amount of time the producers need to spend on marketing their produce thus enabling them to focus solely on production.

In this case, the distributor/processor is also a primary producer and so has in-depth knowledge of the costs of production under organic standards and a vested interest in ensuring a profitable relationship with the multiple retailers. The network also suits multiple retailers who have a preference of dealing with as few suppliers as possible.

In order to keep costs down and increase profits, some organic egg producers have successfully sold to independent retailers by using transport and delivery services already in place. For example, eggs from the Black Isle are collected by a delivery van in Inverness and distributed to outlets in Edinburgh for retail. This type of co-operation between producers is essential if small-scale rural businesses are to reach their customers.

The development of co-operative relationships allows producers to pool resources enabling them to expand and refine their farm business. Producers are able to penetrate markets that they otherwise would not be able to access and subsequently increase production improving their overall profitability. Without this sort of co-operation and relationship between producers, it would be far more difficult for producers to find sufficient markets for their produce thus limiting their ability to impact on the overall levels of market penetration.

Farmers markets and farm shops account for the vast majority of the eggs sold direct to consumers. Producers are able to significantly increase their returns by marketing their eggs in this way with some producers reporting prices as high as £2.80 per dozen at farmers markets. This is more than double the price received by producers selling to a wholesaler (prices received by producers selling to a wholesaler cannot be released due to issues of confidentiality). Several box schemes have also begun to sell organic eggs which has increased the overall attractiveness of organic boxes.

3.5.3. Penetration

The market for organic eggs in Scotland continues to grow. The survey suggests that as much as 40% of the organic eggs sold in Scotland are imported from England and Ireland, closely mirroring what is happening in the non-organic sector. However, it is apparent that by value, Scottish organic egg producers provide between 6.8% and 7.6% of the UK's organic eggs and therefore could meet consumer demand. Consumer demand is stimulating interest and producers are continuing to increase production. It is estimated that production in Scotland will have increased by a further 30% by spring 2006. However, due to the rapidity with which the market is growing, and the apparently unnecessary importation of organic eggs, it is difficult to predict if this will improve the overall levels of market penetration.

3.5.4. Summary

- 84% of organic eggs in Scotland are sold through multiple retailers;
- The Scottish organic egg sector was worth approximately £1.3 million in 2004/05;
- 80% of the organic egg sector is operated under contractual agreement through one wholesaler;
- Penetration levels are approximately 60%.

3.6. Organic dairy

The organic dairy sector is one of the fastest-growing parts of the Scottish organic supply network. Sales of liquid organic milk have increased by over 230% in the past 24 months (Scottish Organic Milk Producers Association (SOMPA)). As liquid milk requirements continue to rise, the demand for milk to go into cheese, ice cream and yoghurt is also on the increase, with the market share increasing significantly. In support of this increase, the British Retail Consortium reports that 100% of organic milk sold by UK retailers is sourced from the UK.

3.6.1. Scotland's production and value

The figures for the Scottish organic milk sector were provided by SOMPA, who represent almost all the organic dairy farmers in Scotland. In 2004, there were approximately 24 organic dairy producers in Scotland, with over 3,000 cows producing 14.7 million litres of organic milk. There are a few producers who are producing milk on a smaller scale for their own use or processing. Due to national marketing problems, some producers have derogations from their organic certification body to 'defer' their conversion to full organic status and are therefore not included in the sample.

3.6.2. Marketing test

Of the 14.7 million litres of organic milk produced in Scotland during 2004, 75% was sold as organic. The reason for this figure not being 100% is due to the lack of collection and storage capability for organic liquid milk rather than lack of market demand and sales. Farmers receive a variable price at the farm gate for their organic milk, depending on market demands, time of the year and who they have their contract with.

One of the key points to any successful marketing venture is to deliver a strategy based on key unique selling points. In the case of organic milk it is believed that the most significant reason for the increase in demand has been the recent establishment of the health benefits associated with organic milk. Studies have shown that organic milk contains substantially more omega-3 fatty acids than non-organic milk. The brand management exercise of offering "Scottish Organic Milk" has also been a notable success. The first supermarket to sell and brand a distinctive Scottish organic milk product was Tesco in spring 2004. This gave the Scottish consumer what they had been looking for; a locally sourced, fresh, well packaged organic milk product.

3.6.3. Co-operation

Effective contract negotiation and marketing to the public, has helped SOMPA and its customers build greater availability and a greater demand. The organic milk market has been turned around due to input from the Scottish Executive, management and marketing from OMSCo and proactive supply network solutions from stakeholders (Robert Wisemans, Graham's Dairies and First Milk).

With assistance from SEERAD, SOMPA were able to employ a marketing manager. This role involves acting as a point of contact for processors and buyers who are then able to access production figures in order to maximise sourcing from Scottish producers. SOMPA's marketing manager has been credited for the increase in the amount of organic milk being sold as organic.

3.6.4. Processing
Dairy processing covers a relatively broad range of activities. Respondents to the processor survey are producing yoghurt and ice cream products. Therefore comparing volumes sold and a value from each market outlet is difficult. However some general comparisons can be made.

Supermarkets take approximately 68% of processed organic dairy products (by turnover). The next greatest share is from wholesaler spending - taking up an 18.5% market share and 13.5% was through small retailers. Volumes of milk sold were given for supermarket and wholesaler sales and this allowed the average price paid by each outlet to be calculated. On average processors selling to wholesalers received a better price for their product whilst the average price of sales to supermarkets was around 7 pence per litre lower.

3.6.5. Looking to the future
Figures suggest that by summer 2006 the market for Scottish organic milk could have grown by 30%, which is above the UK national average. It is therefore vital that all current members of SOMPA are supported and encouraged to continue milk production and those farmers that have deferred conversion should be encouraged to commence full organic production. In addition, the processing of more organic milk in Scotland should be encouraged to reduce reliance on imports from outwith Scotland.

3.6.6. Penetration
Scottish organic milk producers are successfully achieving 100% penetration of raw milk, which accounts for approximately 34% of organic dairy sales[25]. Whilst the raw milk market has achieved 100% penetration, processed dairy products such as yoghurt and cheese, sold through the multiple retailers tend to come from outwith Scotland. For example, organic brands such as Rachel's Dairy and Yeo Valley dominate the market for organic yoghurts in Scotland. Consequently, this reduces the overall market penetration for dairy products to approximately 40%.

3.6.7. Summary
- 3,000 dairy cows produced 14.7 million litres of organic milk in 2004;
- In 2004, a lack of storage facilities and difficult collection logistics resulted in only 75% reaching the organic market;
- Raw milk from Scotland is achieving 100% market penetration but the overall market penetration level for organic dairy products is approximately 40%;
- Processed dairy products are increasing in production;
- The sector is likely to experience under supply by the end of 2005.

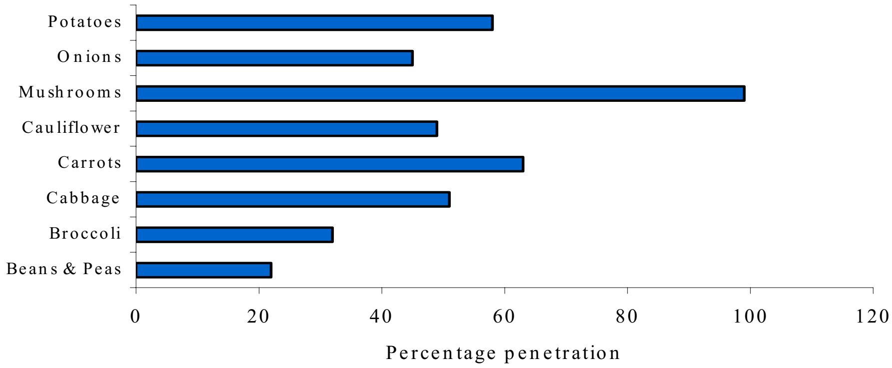
3.7. Organic horticulture

The UK is relatively self-sufficient in the vegetable sector but relies on imports to satisfy a large part of the fruit market. It is estimated that 70% of the UK's demand for organic vegetables could be met from home production, and 94% of the demand for potatoes. Conversely, only 12% of the UK market for fresh fruit is from domestic sources.

3.7.1. Production and imports – the UK

The area of land in the UK dedicated to producing organic vegetables continues to increase. According to the 2005 Soil Association Organic Market Report[1], organic horticulture expanded by 4.5% from 7,377 ha in April 2004 to 7,804 ha in January 2005, accounting for 2.4% of total UK horticultural land. Over the same period, the volume of imported vegetables increased slightly. Imports accounted for approximately 47.6% of total organic vegetables consumed in the UK, down from 46.3% the previous year. However, import levels vary by crop. For example, approximately 99% of mushrooms are sourced in the UK compared with only 22% of beans and peas. The average percent sourced from the UK in 2004 for selected individual crops and sold through the multiple retailers is shown in figure 3.7.

Figure 3.7. % British organic produce sold by multiple retailers during 2004



Source: British Retailer Consortium, 2004[15]

Multiple retailers are purchasing over 50% of their cabbage, carrots and potatoes and between 45% and 49% of cauliflower and onions from UK sources. Growing conditions in the UK limit the opportunity for home-grown produce to be stocked by retailers all year round. It is inevitable that vegetables will be imported to fill these seasonal gaps. The information presented in table 3.5. shows the estimated wholesale imports of indigenous organic primary products in the UK between 2002 and 2004.

Table 3.5. Wholesale imports into the UK (percentage)

	2002/03		2003/04	
	Value (%)	**Volume (%)**	**Value (%)**	**Volume (%)**
Horticulture - vegetables	51	42	51	39
Horticulture - fruit	85 to 90	86	85 to 90	no data
Horticulture - total	66	52	66	50 (estimated)

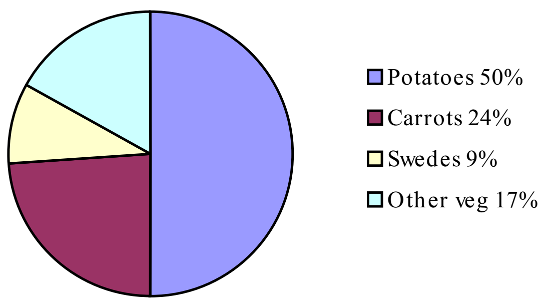
Source: HDRA, 2004[27]
Notes: Indigenous food includes only those products that can be produced under UK climatic conditions.

For produce such as fruit, the volume of imports will remain relatively high due to citrus and tropical produce that cannot be grown in the UK. The slight decline in imports through wholesale complements the increase in land area under organic management.

3.7.2. Scotland's production

Unfortunately, there is no historical market information for the Scottish organic horticultural sector, only the land area statistics generated from the organic certification bodies. In 2004, organic horticultural production in Scotland covered 1,550ha of land (source: DEFRA 2005), 3.8% of Scotland's total horticultural land area. This is a higher percentage than seen in the UK as a whole, which reflects the importance of Scotland in producing organic root crops for the UK. Figure 3.8. illustrates how the 1,550ha of horticultural land is being utilised by organic producers.

Figure 3.8. Land share for organic horticultural crops grown in Scotland (2004)



Source: Defra 2005

When dealing with figures relating to organic vegetable production, it must be remembered that there is a large difference between small-scale production units and field scale contract growing. Small-scale holdings tend to grow such a diverse range of vegetables (usually destined for the direct sales market through small compact supply networks) that their contribution to national market penetration is limited, but they can have a great impact locally. Conversely, large-scale growers tend to grow a smaller range of crops but they have the potential to have a significant impact on the level of market penetration.

The vast majority of organic vegetables grown in Scotland are root crops, equating to at least 83% of the organic horticultural land area, and are destined for sale through the UK's multiple retailers. It is apparent that Scotland's climate can be advantageous for root crops as the generally high frost tolerance, particularly carrots, enables them to be stored in the ground until needed - effectively natural cold storage – or conventionally in stores above ground. Scottish growers are able to provide near year round supplies of carrots, swedes and particularly potatoes albeit with some quality issues regarding skin finish. Therefore, it is not solely the growing season that is preventing high levels of market penetration being achieved in Scotland. Rather, it is a combination of the climate (for some crops), the area of land in organic horticultural production and the demands of the multiple retailers exporting the finished crops to the rest of the UK (e.g. it is estimated that Scotland provides 50% of the UK's organic carrots).

3.7.3. Survey results, volumes and market outlets

In total, 29 of the 258 respondents (11%) were involved in horticultural production during the 2004/05 growing season. Of these, 14 did not declare what they were growing. The remaining 15 grew 4841.5 tonnes of 30 different varieties of fruit and vegetables. The vast majority, 3981 tonnes (82%), were carrots followed by seed potatoes (9%), parsnips (1.7%), cabbage (1.7%), ware potatoes (1%) broccoli (1%) swedes (1%) and broad beans and leeks accounting for a further 1% of total organic horticultural production. The remaining 1.6% consists of a diverse range of fruit and vegetables including redcurrants, raspberries, beetroot, tomatoes and artichokes. The disparities between the survey results and the land use data from DEFRA suggest that despite giving a valuable insight into the supply network, the survey was not representative of all horticultural producers in Scotland.

Table 3.6. lists the fruit and vegetables grown by the respondents. Prices are given where available but to maintain confidentiality, when there are less than 5 producers growing a particular crop, price information has been omitted.

The list in table 3.6. is by no means exhaustive. Some producers, especially those selling direct to their consumers, are growing more exotic vegetables, and experimenting with growing conditions and consumer tastes.

In some instances, there is clearly a wide range of prices paid for different products. This is reflective of the farm gate price received for products being sold direct to consumers, often grown on a small scale, and those being sold to an intermediary or one of the multiples on a large scale. It is apparent therefore that direct sales result in a far higher £/ha return for the farmer (direct sales are dealt with in chapter 4).

Table 3.6. Horticultural production

Crops grown in Scotland	Range or approximate price at farm gate		Total produced (from sample)
	£/kg	*£/tonne*	*tonnes*
Artichokes	No information	-	0.05
Beetroot	0.50 – 1.20	-	33.5
Broad beans	0.90 – 1.70	-	30.02
Broccoli	1.20 – 1.50	-	47.6
Brussel sprouts	1.4	-	18.2
Cabbage	-	800	81.59
Calabrese	1.25	-	1
Carrots	-	300 – 850	3981.172
Cauliflower	1.5	-	0.3
Courgettes	1.20 – 1.50	1,200 – 1,500	1.552
French beans	1.5	-	0.017
Kale	-	-	0.03
Leeks	1.25 – 1.50	-	20.716
Onions	No information	-	0.037
Parsnips	-	700	82.028
Peas	No information	-	0.02
Potatoes	-	200 – 500	49.251
Radishes	No information	-	0.01
Seed potatoes	-	-	450
Swedes	-	300	44.05
Blackcurrants	No information	-	0.022
Plums	No information	-	0.03
Redcurrants	No information	-	0.001
Tomatoes	No information	-	0.131
Raspberries	No information	-	0.137

3.7.4. Marketing strategies - wholesaler

Of the twenty-nine respondents, eleven have contracts for their produce. Four of these contracts are with businesses within Scotland and three are with English wholesalers. The contract details for the remaining four are not known. A further five producers sell their produce to wholesalers but are without the security of a contract. All bar one of these are within Scotland. However, wholesalers and the relationships that growers have with them remains an unknown area. Both parties were quite sensitive to questions from the research team preventing the tracing of produce after it left the farm. Rather than naming the wholesaler, most of the respondents gave the general area where they are located. This sensitivity and reluctance to divulge information effectively makes it difficult to arrive at an accurate penetration figure for horticulture.

There is a historical connection with one English wholesaler, Organic Farm Foods (OFF), who until recently had a depot in the Central belt. OFF not only provided Scottish producers with an outlet for their produce but they also bought in produce from the rest of the UK and from further afield, thus ensuring continuity of supply. At least one producer continues to trade with the Leominster, England branch of the company.

A new company has assumed the service that OFF provided to the organic sector. At the time of the survey, they had not been operating for a full year, and were unable to fully contribute any volume and value data to the survey.

3.7.5. Marketing strategies – multiple retailers

As with wholesalers, producers divulged little about their relationship with the multiple retailers in the questionnaire survey. However, the processor survey suggests that a number of large producers are supplying the multiples with large amounts of vegetables and some fruit via wholesalers.

For example, the largest vegetable processor is able to supply one of the major multiple retailers with organic carrots from Scotland for 8 months of the year (August through to March). Using their own farm and other Scottish growers, they have been supplying almost 80% of the multiple retailers UK depots with approximately 125 tonnes of carrots per week (over 4000 tonnes per year).

At least one of the multiple retailers has a policy to source from Scotland whenever possible. Consequently, when fruit and vegetables are in season or as in the case of root crops, still in storage, a penetration level of 100% is achievable. However, the season for all vegetables, especially those susceptible to frost is considerably shorter in Scotland than it is in England, (it starts between 2 and 4 weeks later and ends approximately 2 weeks earlier) forcing the multiple retailers to source more of the produce from the rest of the UK and further afield.

3.7.6. Marketing strategies – direct sales

Twenty one producers sold an amount of their produce direct to the consumer. Three attended farmers markets in Glasgow, Inverness, Dingwall and Aberdeen; 5 sold through their own farm shops (including one who had a shop located away from the farm); 12 sold their produce through their own box schemes, with one selling through a number of schemes across Scotland.

With direct sales, penetration levels are very high for indigenous produce. For example, of the 12 box schemes currently operating in Scotland, 75% (9 box schemes) are able to source more than 70% of their produce from Scotland. Farmers markets also have guidelines to prioritise locally grown food and therefore, levels of penetration are likely to be similar (for more detail on direct sales, please see section 4).

With such high levels of market penetration evident in local/direct sales, it is feasible to assume that the 70% target set by SEERAD is achievable. However, when compared with the extensive networks serving multiple retailers it is apparent that the more compact networks associated with local/direct sales have relatively few barriers to attaining high levels of market penetration especially as regards consumer expectations.

It is necessary to consider the expectations of consumers buying direct from producers and how these differ with those of consumers buying from the multiple retailers. It is likely that they are more open to accepting the seasonality of vegetables, and those that are a little oddly shaped or with a less than perfect skin finish. Whereas consumers buying from multiple retailers are more likely to demand produce that is out of season, of uniform shape and size and with perfect unblemished skins. Therefore, whilst it is true that as shown in previous research (SQW/ADAS) that it is the market or marketing related factors that are limiting Scotland's potential for achieving high levels of market penetration, the role of the consumer and the multiple retailers in this equation must not be underestimated.

3.7.7. Marketing strategies – food service
One of the down sides of dealing with the multiples is the high volumes of 'Grade 2', slightly mis-shaped produce which is deemed unfit for supermarket shelves. One way of utilising this 'waste product' is supplying the food service sector. There is a vegetable processor in the North of Scotland selling approximately five tonnes a week of their grade 2 carrots to a local wholesaler and the local council is buying the organic carrots from the wholesaler to use in school canteens. This alternative outlet is not necessarily more profitable to the processor but it is more rewarding than seeing the ware spoiling and only being fit for livestock feed. Developing the links with the wholesaler may also help develop future markets for other vegetables, which are currently sourced in the Central belt. Building network relationships within a local area helps to keep costs of haulage to a minimum and the freshness of the goods is maintained.

3.7.8. Independent retailers
Three of the respondents sold their produce direct to independent retailers. One producer sold to a range of local shops on the Isle of Mull whereas the remaining 2 sold to single health food shops (for more detail on independent retailers see section 4).

3.7.9. Penetration
Seasonality is one of the key factors controlling the penetration of Scottish organic fruit and vegetables. During peak growing periods Scotland is self sufficient in staple crops such as potatoes, carrots and parsnips and in other crops if available. Multiple retailers that have a policy of sourcing Scottish produce when they are in season help to ensure that this is possible. The success of the direct market sector in achieving high levels of market penetration suggests that the multiples could do better and source more seasonal and stored vegetables throughout the year. However, with horticultural crops, ultimately it is the consumer who will dictate what level of market penetration Scotland's organic sector can attain.

Without the information from the wholesale businesses, it is difficult to give a value to the sector and an accurate market penetration figure. However, with the information gathered from producers and processors and the successes seen in the direct marketing sector, Scotland could comfortably supply consumer needs with up to 80 – 90% of indigenous root crops such as carrots, potatoes, parsnips and swedes. This figure would continue to increase if the land area growing these crops was also increased. Due to Scotland's climate, other vegetables such as broccoli, cabbage and leeks and other more exotic crops, which tend to be grown on a smaller scale in Scotland, will be reaching relatively lower levels of penetration. However, this could be improved with increased levels of investments in polytunnels. It is likely that for some products, the 35% penetration level identified by SEERAD in their Organic Action Plan has not been improved upon. However, as staple root crops tend to represent one third of an individuals vegetable purchases, the overall penetration figure for indigenous organic vegetables will be higher – approximately 50%.

There is a very limited production of fruit in Scotland but much potential for this to increase. Consequently, penetration levels remain generally low although some soft fruits, especially strawberries, may fare better than others but it is unlikely that a penetration level above 10% has been achieved. However, 70% of organic fruit sales[1] are tropical/citrus and therefore the overall market penetration for indigenous fruit is approximately 33%.

3.7.10. Summary

- 1,550ha of Scotland's certified organic land is under horticulture production;
- During 2004, organic potatoes accounted for 2.6% of the Scottish potato industry occupying 50% of the total organic horticulture land area;
- Seasonal penetration could be 80 - 90% in staple root crops but due to the length of the growing season, as low as 35% in others;
- Overall penetration for vegetables is approximately 50% but this could be improved with increased levels of investments in polytunnels and other season extending practices;
- Overall market penetration levels for indigenous fruit are approximately 33%;
- Consumer purchasing preferences will drive the level of market penetration and there is an opportunity to increase consumer awareness of seasonality and food miles.

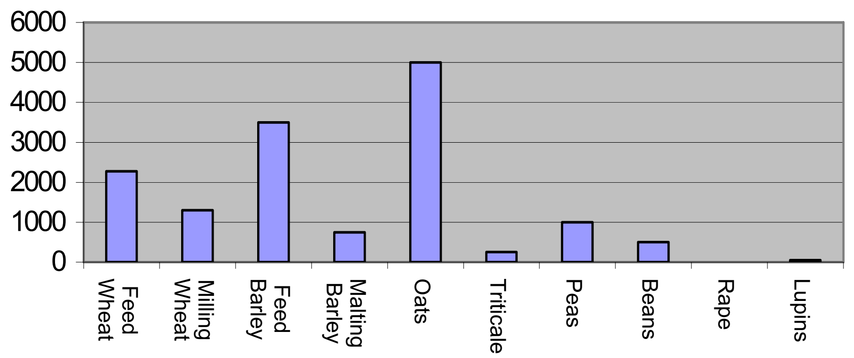
3.8. Organic arable sector

Demand for organic grain continues to rise in the UK, and in response farmers have increased production. Consequently, organic arable production grew by over 9% from 44,413 ha in April 2003 to 48,494 ha in April 2004 and by a further 7% to 52,234 ha in January 2005 (Defra 2005). Currently, 3% of Scotland's fully certified organic land, or 9,363 ha, is recorded as being under arable production.

The 2004 harvest produced nearly 15,000 tonnes of assorted arable crops (see figure 3.9.) a third of which was retained for home use. Oats accounted for over a third of Scotland's arable production at 5,000 tonnes. It is estimated that 1,300 tonnes were retained by the producers mainly for use as feed. In addition to the oats, approximately 7,500 tonnes of arable crops were grown for animal feed, a large percentage of which was retained for home use[19].

It is clear that Scottish arable production is focussed on the production of feed, which in conjunction with the data presented in sections 3.1 and 3.2 highlights the importance of livestock in the Scottish organic supply network.

Figure 3.9. Total Scottish Organic arable production - harvest 2004



Source: OML Project[19]

In addition to animal feed, 1,300 tonnes of milling wheat and 750 tonnes of malting barley was also produced in 2004.

3.8.1. Survey results – volumes and markets

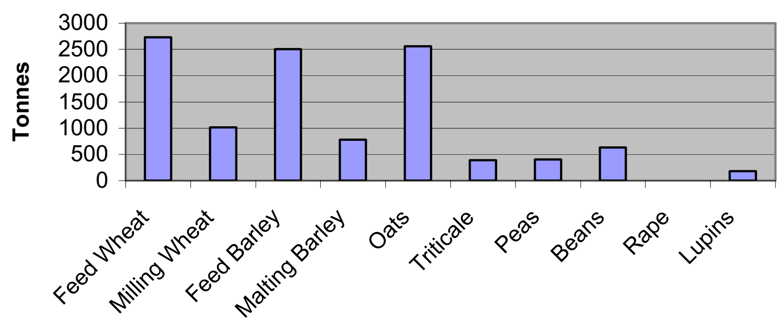
The survey elicited 77 responses from producers who are involved in arable production, growing an average of two different crops. The most commonly grown crops are oats and feed barley. For the year July 2004 to June 2005 the respondents account for a total of 11,192 tonnes of assorted arable crops (see figure 3.10.). Of this total, nearly 10,000 tonnes is organic grain, with the remainder being made up of beans and pulses.

Table 3.7. Number of producers involved in arable production – By crop type

Crop type	Number of producers
Feed wheat	21
Milling wheat	11
Feed barley	34
Malting barley	8
Oats	38
Triticale	6
Peas	8
Beans	11
Lupins	4

Feed wheat and feed barley accounts for nearly 47% of the respondents predicted production, 2,729 tonnes and 2,507 tonnes respectively. Respondents predicted that a further 2,559 tonnes of oats would be produced in harvest 2005.

Figure 3.10. Predicted organic arable production - harvest 2005



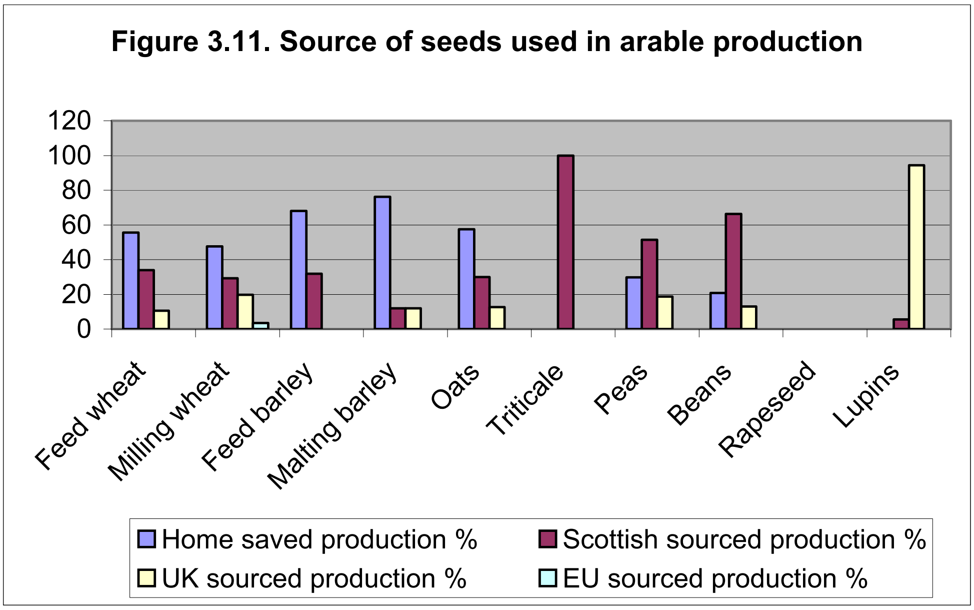
3.8.2. Organic arable seeds

Of the 77 producers from the sample engaged in arable production, 68 provided details of what variety of seed they use and where it was sourced, accounting for 78% of the reported total arable production.

In total, 68 different seed varieties were grown. Feed wheat and feed barley production is the most diverse with producers growing 12 and 13 different varieties respectively. Relatively, oats showed the lowest level of diversity with 69% of the respondents growing the same variety – Firth.

Figure 3.11. illustrates that the majority of the respondent's production is grown from home saved seeds. As a percentage of production, home saved seeds account for 55%, seeds sourced from merchants in Scotland 33% and seeds sourced from England 12%.

Only one producer sourced seeds from outside of the UK, representing less than 0.3% of total arable production.



3.8.3. Market outlets

It is apparent that producers are increasingly retaining arable crops to feed their own livestock. The survey suggests that 50% is now being retained for home use, which is an increase from 32%[19] in the previous year. Of the 77 producers from the, only 31 provided information regarding their market outlets when the crops were not retained for home use, accounting for 3,315 tonnes of arable crops. Table 3.8. illustrates which market outlets were used by the respondents.

Table 3.8. Percentage of arable producers using different market outlets – by crop category

Crop	To producers	Seed merchant	Feed merchant	Merchant - other	Contract	Processing - human consumption
Feed wheat	28%		60%		12%	
Milling wheat		21%	32%	48%		
Feed barley	67%	33%				
Malting barley						100%
Oats	5%	6%	7%	13%	7%	62%
Triticale		100%				
Peas		100%				
Beans		23%	26%	51%		
Rapeseed				100%		
Lupins				100%		

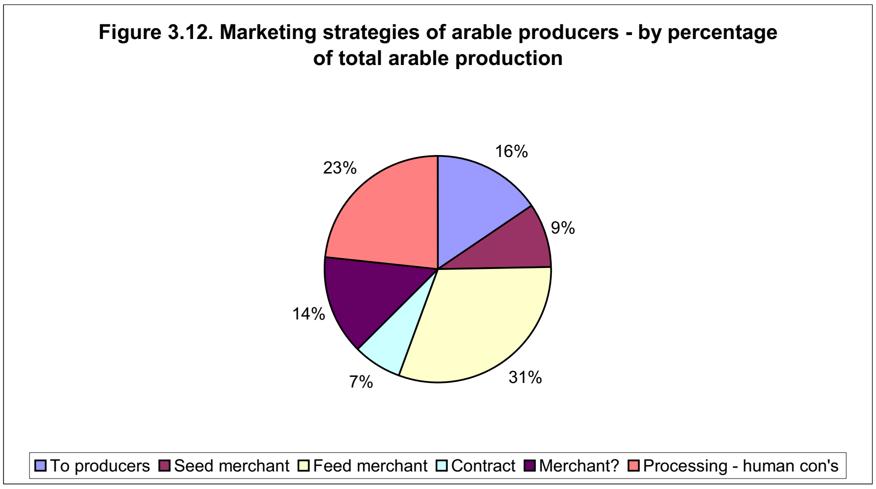
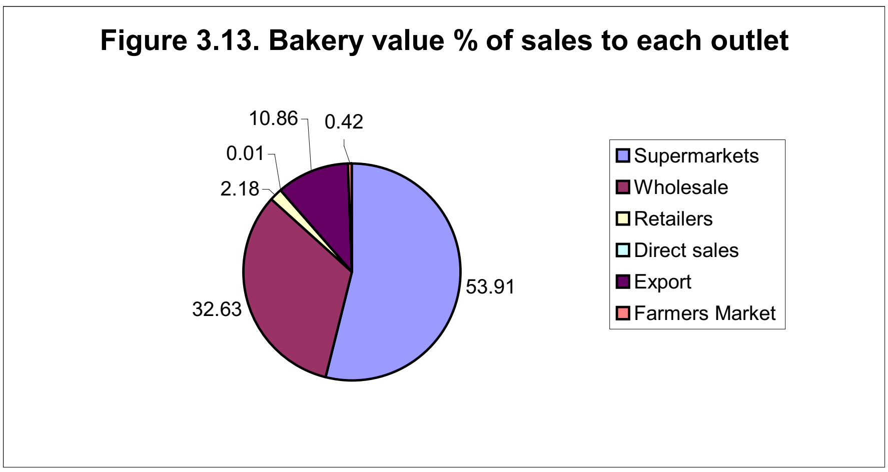


Figure 3.12. illustrates the percentage of the total reported arable production (all crop categories) marketed through different channels. It is clear that the majority of production is destined to become animal feed with 31% going to feed merchants and a further 16% being sold direct to other producers for use as feed. In addition, 14% is sold to 'other' merchants, at least half of which is used as feed and 7% is grown under contract, also for feed.

Only 23% of arable production is definitely grown for human consumption. The vast majority of this consists of oats but a small percentage is malting barley destined for breweries. The remaining 9% of the arable production is delivered to seed merchants.

Once the arable products are delivered to the various merchants, it is unclear where they are marketed as both merchants and processors were reluctant to divulge marketing strategies and policies. However, a certain amount of information regarding the value of the market for organic bread, biscuits, cereals and brewing was collected.

In total, 7 processors involved in the processing of grain responded to the survey and they produced £7,539,937 worth of goods. Bakery products accounted for 3%, milling a further 4% and biscuits 93% of the total value. No information regarding the amount (tonnes) or origin of grain used in production was provided.



The majority (54%) of these products are sold through the multiple retailers, with a further 33% going to wholesalers. From wholesalers, the products are likely to go on to other multiple and independent retailers. Exports account for nearly 11% of the value highlighting the international demand for Scottish shortbread and oatcakes. Direct sales account for less than 0.5% of the final value with farmers markets being the most popular direct sales method.

As with the other sectors, little detail regarding the source of raw ingredients was provided making it very difficult to comment on the penetration of Scottish arable products into this market. However, from the telephone interview survey it is clear that sourcing enough Scottish grain is a problem, with the vast majority of grain coming from England and the EU with a small amount coming from as far away as South America. However, the Organic Market Link project[19] recently reported that Mornflake have launched a new product called 'Oats to go' using only Scottish oats.

The organic alcohol sector is continuing to develop with some areas developing more strongly than others. Only one Scottish brewery responded to the survey. They are now supplying only one wholesaler with their organic beer after unsuccessfully marketing three of their beers through one of the multiple retailers.

The majority of the ingredients used in the production of organic ales are grown outside of Scotland. The UK organic hop supply is a long way short of demand, so organic hops are imported from the EU or New Zealand. In some cases brewers have to apply for derogations to use non-organic hops, as they cannot get supplies of the organically grown varieties that they need for their flavour. The malting barley that is grown in Scotland has to be transported to Warminster in England for malting. Subsequently, it gets mixed in with organic malting barley grown elsewhere in the UK making it impossible for Scottish brewers to be sure they are using Scottish ingredients in their produce.

3.8.4. Market penetration

It is clear that animal feed production dominates Scotland's arable production. Based on the SAC predictions for livestock production for 2005 and the survey results, it has been calculated that Scotland's organic livestock consume approximately 13,000 tonnes of arable crops per year. This is considerably more than the 8,700 tonnes of arable crops grown in Scotland for animal feed resulting in a shortfall of over 4,000 tonnes. Therefore, current production has potential to meet approximately two thirds of demand resulting in a market penetration of 66%.

However, due to a lack of facilities in Scotland, a large percentage of the grain sold to English merchants is transported to England for processing into feed. Without physically following the grain through this process, it is very nearly impossible to discover whether Scottish organic grain is returned to Scotland for use. Therefore, bearing in mind that approximately a third of organic animal feed is retained for home use and approximately 30% of the feed wheat and 70% of the feed barley is traded directly with other producers, market penetration for arable crops used as livestock feed currently stands at approximately 50%.

Whilst market penetration figures for livestock feed and arable seeds provide an insight into the organic agricultural inputs sector, they will not form part of the overall market penetration figure for Scotland. This is because the Scottish Executive target that this project is concerned with relates only to Scottish consumer demand for organic products, which can be sourced in Scotland.

Arable crops grown for human consumption are traded on a UK basis and whilst some processors source Scottish grain wherever possible, it is clear that the infrastructure is not in place to make this happen. Subsequently, whilst it is feasible that domestic production could meet as much as 70% of domestic demand, it is not known if this is happening in Scotland. An estimate based on the processor survey would put penetration as low as 30%.

It is clear that if the market penetration level of indigenous organic arable products is to increase for both animal feed and human consumption infrastructural developments are necessary.

3.8.5. Summary

- Scotland's organic arable sector is dominated by the production of livestock feed accounting for more than 50% of arable production;
- Market penetration for arable crops used as livestock feed currently stands at approximately 50%;
- Market penetration for arable crops used for human consumption is estimated to be as low as 30%.

3.9. Aquaculture

The organic aquaculture industry is focused around Scotland's islands, with the majority of produce originating from the Western and Orkney Isles. The small volume of production in the Shetlands is expected to increase in the near future as newly certified salmon farms become fully operational, and with the production of new species such as cod and shellfish. There is currently only a small amount of organic trout being produced on the Scottish mainland.

3.9.1. Survey results – volumes and markets

Currently, all organic salmon produced in the UK is grown in Scotland and it accounts for the vast majority of organic salmon sold in the U.K.

Production in 2004/05 dropped to approximately 2,500 tonnes, compared to 3,117 tonnes in 2003/2004. The farm gate value in 2004/2005 was £6.8 million. With the fall in production the average price of salmon per kilogram increased from around £2.40 to around £3. It has been suggested that the small fall in supply was due to wariness of market trends and changes in husbandry practices. The first certified Scottish trout farm began production in 2005. It is currently producing approximately 60 tonnes per year in its start up phase, but plans to double production early next year.

3.9.2 Processing

The supply network for organic Scottish salmon is often complex and follows a number of different routes through primary processors, fish wholesalers and smokers before going to the consumers via supermarkets and other retail outlets. Some salmon is also sold direct at farmers' markets, and some is exported whole. Initial sales of farm gate salmon are typically to primary processors, wholesalers or secondary processors such as smoke houses.

The small volume of trout is currently handled by one processor, and sold whole (gutted) in controlled atmosphere packaging.

Approximately 60 per cent of farmed salmon are sold fresh, mainly within the UK, with the balance going for smoking and other forms of processing usually within Scotland.

3.9.3. Penetration

Of the organic salmon produced in Scotland, 60 per cent was sold to the multiple retailers, predominantly Waitrose, 12 per cent was exported, 10 per cent sold to independent retailers and the remainder through direct sales and the food service industry. Currently all of the organic trout produced in Scotland is sold to the multiple retailers.

A TNS Superpanel survey showed that around 10% of the Scottish population have bought or tried organic fish in the last year. However the South of England is the region that spends the most on chilled organic fish, with sales accounting for more than 70% of total UK expenditure, indicating that the vast majority of Scottish organic salmon is exported.

The low demand but high level of production of organic salmon in Scotland, suggests that market penetration of close to 100% should be easily achievable. However, at least one major multiple retailer in Scotland often stocks organic salmon of Irish origin, thus reducing the overall penetration level to approximately 90%.

Overall, demand for organic salmon is currently very high, and farm gate prices have increased over the past 12 months. Lack of public awareness and knowledge appear to be holding back growth in this sector. However, the organic fish farming industry is confident volumes will resume strong growth in the coming year.

3.9.4. Summary

- Organic fish production in Scotland is predicted to increase and diversify into other species ;
- Organic salmon is a high value, niche market;
- Overall, demand for organic salmon is high and is expected to increase in the coming years;
- The South of England spends the most on organic fish - over 70% of the total expenditure. Scotland's share is less than 10%;
- Organic salmon penetration is approximately 90%.

4. Retail and consumers

4.0. The retail of organic food

Supermarkets continue to dominate organic sales in the UK, accounting for 75% of the market. However, there continues to be strong growth in sales direct from the farm to the consumer, which have increased as a proportion of total sales to 11.9%. In addition, sales through independent retailers have grown considerably (see table 4.1).

Table 4.1. Estimated UK retail value of organic food sold through different outlets.

	2001/02		2002/03		2003/04		2004		
	Sales £/m	Proportion of total organic retail sales (%)	Sales £/m	Proportion of total organic retail sales (%)	Sales £/m	Proportion of total organic retail sales (%)	Sales £/m	Proportion of total organic retail sales (%)	Percentage change April '04 to end Dec'04
Multiple retail sales	755.0	82	821.0	81	899.4	80	913.2	75.3	1.5
Direct/alternative sales	73.0	8	93.3	9	108.4	10	144.0	11.9	32.8
Independent retail sales	92.0	10	101.0	10	111.1	10	156.1	12.9	40.5
Total	920.0		1015.3		1118.9		1213.3		8.4

Source: Soil Association, 2005[1]

4.1. The retail of organic food in Scotland

For the purposes of this project, TNS were contracted to supply information from their 'Superpanel' data regarding sales of organic food in Scotland. Superpanel data shows that expenditure on organic food for the 12 month period ending May '05 was £41,466,000, (5.4% of TNS figures for the UK market – see appendices IV) an increase of only 3.9% on the previous 12 month period. Therefore, the organic market in the UK as a whole is growing at a faster rate than in Scotland.

4.1.1. Multiple retailers

TNS also gave a breakdown of which stores consumers are using to buy their organic products. Table 4.2. Shows the share of organic expenditure by outlet both in the UK as a whole and in Scotland specifically.

Table 4.2. Organic expenditure share by outlet– Scotland vs UK

	UK (%)	Scotland (%)	Value of sales in Scotland
Total Tesco	27.5	38.6	£ 16,005,876
Total Sainsbury	26.3	15.6	£ 6,468,696
Total Waitrose	18.6	0.2	£ 82,932
Total Asda	7.7	13.7	£ 5,680,842
Morrisons and Safeway	5.9	13.3	£ 5,514,978
Marks & Spencer	3.3	5.2	£ 2,156,232
Total Co-op	2.2	4.2	£ 1,741,572
Total Somerfield	1.4	3.1	£ 1,285,446
Total independents	1.3	0.4	£ 165,864
Discounters	0.1	0.3	£ 124,398
Other	5.7	5.4	£ 2,239,164

Within the UK as a whole the organic retailer share is very different to the total grocery market share. Specifically there is high over trade in organic retail in Waitrose (18.6%) and a huge under trade in Asda (7.7%). Within Scotland however, other than Tesco's over trade within the organic market (38.6%), the organic multiple retailer share is much closer to the total grocery share within Scotland. Therefore, it is clear that Tesco is the Scottish organic consumer's supermarket of choice.

All of the multiple retailers were contacted by the research team and asked to provide information regarding their sales of organic produce and where it was sourced. However, it is clear that whilst representatives of the multiple retailers are keen to say that they source Scottish organic produce whenever possible, they are not able to provide detailed information about this. This is attributable to concerns regarding confidentiality but also, due to the fact that suppliers can be changed on a daily basis (or even more frequently) so it is difficult and time consuming for the multiple retailers to gather this information.

In the UK some multiple retailers have been increasing the amount of British organic produce sold in their stores. For example, Sainsburys have increased the share of British sourced produce to 67% (they intend to reach 70% in 2006) and Tesco is introducing more seasonal produce into its stores.

Tesco, Asda, Sainsbury and The Co-op contributed to a British Retail Consortium survey in 2004, which compared the sourcing of organic produce with non-organic produce (table 4.3). It is probable that the multiple retailers in Scotland will have a similar record as regards UK sourcing, but once this is focused on Scotland, market penetration levels will change. It is likely that more red meats and root vegetables but less of the more exotic vegetables and salad crops will have been sourced from Scotland.

Table 4.3. Comparison of British sourced organic primary products versus conventional own label products (value) for the year 2004.

CATEGORY	PRODUCT	% BRITISH OF ORGANIC SALES 2004	% BRITISH OF CONVENTIONAL SALES 2004
1. Dairy	Butter	100	52
	Cheese	92	81
	Cream	100	98
	Eggs	100	100
	Milk	100	100
	Yoghurt	100	73
2. Meat	Bacon/Ham	39	25
	Beef	37	88
	Lamb	89	82
	Pork	50	95
	Chicken	100	99
	Turkey	100	70
3. Produce			
Salads	Leafy Salads	40	44
	Cucumbers	40	60
	Peppers	9	41
	Tomatoes	37	32
Vegetables	Beans & Peas	22	30
	Broccoli	32	54
	Cabbage	51	81
	Carrots	63	97
	Cauliflower	49	84
	Mushrooms	99	42
	Onions	45	65
	Potatoes	58	91
Fruit	Apples	4.2	19
	Pears	4.2	15
	Soft Fruit	42	51
	Stone Fruit	0	6

Retailers contributing to this survey: Tesco, Asda, J Sainsbury and The Co-op
Source: BRC April 2005[15]

4.1.2. Independent retailers

TNS data suggests that sales through independent retailers account for 0.4% or £165,864 of sales of organic food in Scotland. The Organic Directory lists 32 independent retailers as selling a range of organic produce in Scotland. Each of them were contacted by telephone but only 10 consented to a short telephone interview. Only one of the retailers marketing organic meat sourced 100% of their produce in Scotland. The remaining nine sold varying amounts of Scottish produce but they were unable to source it all of the time. On average, 56% of the produce sold through their outlets was of Scottish origin.

4.2. Direct sales
In the UK, local and regional foods represent 6% of food and drink sales (Source: Defra, 2003). According to the 2004 Soil Association Food and Farming report, during 2003/04 direct sales of organic food increased from £93.3 million to an estimated £108 million, this was a rise of 16 %, representing a faster growth rate than any other retail outlet – including the supermarkets.

4.2.1. Farmers' Markets
The annual turnover in 2004/05 for farmers' markets in the UK was approximately £200 million. Farmers' markets are steadily becoming one of the most popular outlets for local food.

> "Over the last five years we have seen growth from a standing start to some sixty markets throughout Scotland with a combined turnover of twenty million pounds." ….
> "The success of farmers' markets are testament to all those involved, we have created not only a niche market but a brand image as well." (John Scott, former president of the Scottish Association of Farmers' Markets SAFM, July 2005).

Freshness is seen as the overwhelming reason for buying from farmers' markets. With the perceived benefits of taste, reputation, product integrity, provenance, traceability and product quality all high on the list. Community spirit is also a key driver, offering consumers the chance to support local producers and retailers, as well as the local economy and job market. However, price can be seen as a barrier, with one in five people who aren't buying from farmers' markets citing local food as generally too expensive and often higher in price than similar alternatives.

4.2.2. Organic penetration
Farmers' markets are an ideal outlet for organic farmers and growers to sell their produce. Some organic producers attend several markets each month. The figures quoted in table 4.4. illustrate SAFM figures regarding the number of organic producers attending farmers' markets, but does not account for 'multiple attendees'. Therefore, at some markets there will be a significantly greater organic presence e.g. Perth and Edinburgh than some more rural markets e.g. Banchory and Peebles. Additionally, stalls do not only have one product category for sale. For example, there may be eggs being sold alongside vegetables and preserves alongside meats.

Table 4.4. Scottish farmer market stall holders

Product type	Total	Of which are organic	Organic %
Meat (all types)	33	9	**27%**
Fruit & Vegetables	22	7	**32%**
Beverages	6	1	**16%**
Baking/ Confectionery	19	1	**5%**

Producers selling horticultural produce account for one third of all stall-holders. Meat producers have the second highest presence with just over a quarter of all stalls selling organic meat.

Whilst farmers' markets have a local focus, in some areas of Scotland produce may be bought in by stall holders from wholesalers to maintain continuity of supply and product diversity. This practice has been necessary to establish the concept of farmers' markets in Scotland. However, now that they are relatively successful, moves should be made to ensure that stall holders stock local and seasonal produce wherever possible.

4.2.3. Box schemes

The number of professional home delivery schemes (also known as box schemes) is increasing. One leading operator in the UK, Riverford Organic Vegetables, doubled its number of customers in 2004 to an estimated 22000 boxes a week. The success of box schemes has led Dairy Crest, the largest dairy group in the UK, to start an organic vegetable box scheme. Across the UK in 2003/04, the number of box schemes and home delivery services increased to around 500, compared to 471 in the previous year.

In 2004, 13 organic vegetable box schemes operated throughout Scotland, selling just over 5,000 boxes per week. In addition, there are several smaller scale businesses supplying limited quantities of seasonal produce to local customers and businesses. The average price per box ranges from £8 - £15 equating to a market value of £1.9 million in 2004. Some schemes deliver within 30 miles of their business whereas others, may deliver to customers throughout Scotland. Proximity to a populated customer base allows some box scheme businesses to distribute large volumes within a 40 mile radius of their business. Locality is also paramount if the business is to expand due to increased customer demand.

4.2.4. Sourcing

Box scheme operators were asked where they source their organic produce for their business. Table 4.5. Presents the findings.

Table 4.5. Source of produce sold through box schemes

Produce	On-farm	Scottish producers	Wholesale
Vegetables	31%	30%	39%
Fruit	1%	3%	96%
Dairy Produce	-	100%	-
Eggs	100%		-

Due to the increase in land under horticultural management, there is an increase in the availability of indigenous produce. However, businesses that offer a wide range of produce, often depend on wholesale companies to supply 'out of season' and more exotic products.

Meat boxes are an area in the early stages of development. A handful of producers have been selling meat at farmers markets and 'freezer ready' meat to their local communities for years. With the growing interest in the home delivery, on-line, mail order and internet sales sector, it is likely that sales of organic meat boxes will continue to increase.

4.2.5. Penetration

From the information supplied by the box scheme operators, organic vegetables are able to penetrate the home market by 80-85 %. The remainder is bought-in through wholesale and the origin is unknown due to lack of co-operation and trading information from organic wholesalers. However, through the producer returned surveys, it is apparent that up to 20% of the total vegetables from wholesale, could have been sourced from Scottish growers. However, in response to consumers adopting a more Mediterranean style diet and therefore demanding produce not indigenous to Scotland, most of the produce will be imported from Europe. All eggs sold through Scottish box schemes are either produced on-farm or bought in from Scottish farms. Raw milk and dairy products are all bought-in from Scottish organic sources indicating 100% market penetration.

Several box schemes are operated by a small number of staff, in many cases, it is the producer/grower and one other person. Lack of financial return on such a labour intensive unit has led to most businesses reaching a point where customer demand requires them to expand, but financially they are not able to afford an extra employee. Evidence gathered by the research team suggests that it is difficult for box schemes to expand beyond 500 boxes a week without significant investment. At this stage the business is likely to rely on imported produce, thus reducing the level of market penetration, as it does not have the capacity to meet demand. However, once a box scheme exceeds sales of 1000 boxes a week, economies of scale make the business profitable, as more land can be bought into production and more staff employed, consequently, the level of market penetration of indigenous organic produce will increase.

4.3. Organic Consumer Trends in Scotland

The Soil Association commissioned an omnibus survey and Superpanel data from TNS in April 2005. The sample surveyed in the omnibus poll was 1054 adults aged 16 or over, living across the 42 constituencies in Scotland. The sample was weighted to represent the adult population.

4.3.1. Omnibus Poll Results

Of the 1054 people surveyed 37% claimed to buy organic food or drink nowadays. This broke down into 40% of females as opposed to 33% of males. There was also a marked socio-economic trend with people in the top grouping being 27% more likely to buy organic food or drink than those in the bottom grouping (55% of ABs, 37% of C1s, 30% of C2s and 28% of DEs).

In terms of age, those aged 45 – 54 were most likely to buy organic food or drink (47%), whilst the youngest grouping of 16 – 24 year-olds were least likely to do so (27%).

Of the 37% who do buy organic food or drink, 93% use supermarkets for at least some of their organic shopping, 19% use farmers' markets, 11% farm shops, 10% health food shops and only 2% use local shops to buy organic goods (See table 4.6).

Farmers' markets were significantly more popular among social classes AB than any other group, at 35% versus 13% of those in classes C1C2 and 5% among DEs). It might be interesting to compare this with the location of farmers' markets in Scotland and whether they are located in city centres or more affluent areas rather than lower income areas.

Table 4.6. Where organic goods purchased from

Base: All who buy organic food or drink nowadays

	%
Supermarkets	93
Farmers' markets	19
Farm shops	11
Health food shops	10
Local shops	2
Base:	**370**

If non-supermarket locations are combined, 42% of respondents say that they use non-supermarket outlets as a source of at least some of their organic food.

There was also an interesting gender breakdown in use of farmers' markets and health food shops. Men are more likely than women to buy organic goods from farmers' markets (24% as opposed to 15% of women) and women are more likely than men to use health food shops to buy organic food or drink (13% as opposed to 4% of men).

However, when people were asked where they do most of their organic food or drink shopping, a different picture emerges. No less than 86% of the respondents do most of their organic shopping in supermarkets; farmers' markets are next in line with just 4%, followed by farm shops and health food shops which both took 3% of the organic consumers regular custom (see table 4.7).

Table 4.7. Where organic goods are purchased most often

Base: All who buy organic food or drink nowadays

	%
Supermarket	86
Farmers market	4
Farm shops	3
Health food shop	3
Base:	**370**

The survey also investigated the respondents' commitment to buying Scottish organic food as distinct from organic food generally. Of the 37% who claimed to buy organic food or drink, 42% said they would actively seek Scottish organic food or drink. As with organic food generally, the older age groups were more likely to seek out Scottish organic produce; 50% of those aged 45 plus would seek out Scottish organic food or drink as opposed to 32% of those aged 16 – 44.

Respondents who already buy organic food or drink were asked if there were any factors which deterred them from buying Scottish organic goods specifically. It was encouraging that 60% of them said there are no factors deterring them. The only deterrent that a significant number of respondents gave (23%) was *'price / it's usually more expensive'*. This reflects the demographic breakdown of who buys organic products, with a lot fewer people in the social groupings C2 and DE buying organic products, as opposed to ABs and C1s (see page 68). So there may be a perception among lower income groups that organic food or drink is beyond their means.

Of the respondents who actively buy Scottish organic food or drink (that is, 42% of the 37% who buy organic food or drink in general), 81% claim to buy Scottish organic vegetables which is, by some margin, the most widely purchased Scottish organic product. Fruit comes in next at 41%, followed by eggs (37%), red meat (36%), poultry (25%), milk (20%) and fish (17%). [See table 4.8].

Table 4.8. Scottish organic goods bought most frequently

Base: All who actively buy Scottish organic food or drink

	%
Vegetables	81
Fruit	41
Eggs	37
Red meat	36
Poultry	25
Milk	20
Fish	17
Base:	**154**

The Soil Association also commissioned a national opinion poll via Market Tools Inc. in August 2005 on perceptions of the taste of organic food. In Scotland 76% of respondents said that organic fresh fruit and vegetables taste better than non-organic, which was higher than the national average of 69%.

4.3.2. TNS Superpanel Results

In addition to the retail value of organic food (see section 4.1) the TNS Superpanel data also provides an insight into demographic trends to build on the omnibus poll findings. In both the UK as a whole and in Scotland specifically, most organic expenditure is made by people within the social classes ABC1. In Scotland, the level of expenditure amongst this group is slightly higher than in the UK as a whole (68% vs 63%).

Table 4.9 shows the organic expenditure share by demographic groups across both the UK and Scotland specifically.

Table 4.9. Organic expenditure share by demographic group – Scotland vs UK

	UK (%)	**Scotland (%)**
ABC1	63	68
C2DE	37	32
Housewife aged under 28	5	7
Housewife aged 28-34	11	16
Housewife aged 35-44	25	22
Housewife aged 45-64	36	32
Housewife aged 65+	22	24
1 member households	23	27
2 member households	37	38
3 member households	16	20
4 member households	18	11
5+ member households	6	4
No children	70	74
Children	30	26

Those aged 45-64 account for the most organic expenditure. Specifically, 36% of UK organic expenditure is made by those within this age group and 32% in Scotland.

Smaller households account for higher organic purchasing in Scotland than in the rest of the UK: in Scotland two thirds (65%) of households with 2 or less members account for organic expenditure. In the UK as a whole, these households account for 60% of organic expenditure. Whilst almost a quarter of organic expenditure in the UK is made by those living in households with 4+ members (24%), in Scotland this is only 15%.

Perhaps unsurprisingly given the results shown in the previous paragraph, more expenditure is made by households with no children in Scotland (74%) compared to the UK as a whole (70%).

4.3.3. Conclusions
Some interesting trends have been identified by the research. Higher income and smaller households are the largest organic purchasers in Scotland. It is also significant that the only real deterrent to purchasing Scottish organic goods is seen as price.

It would therefore appear that if the organic market in Scotland is to develop, market penetration in multiples needs to be improved and direct sales outlets such as farmers' markets, buying groups and box schemes need developing. Direct sales figure very low as sources of organic goods in the TNS omnibus poll of Scottish consumers. However in the 2004 Organic Food & Farming Report issued by the Soil Association direct sales had shown a remarkable 16% growth to £108,000,000 in the UK.

Key objectives could be to:

a) Work to make more organic goods available that cater to the receptive grouping of professional ABC1 couples without children (such as box scheme deliveries);

b) challenge the perception of price premium and promote the real value of organic food and drink to mothers of families;

c) increase direct sales and facilitate development of food buying groups which may in fact be more economical;

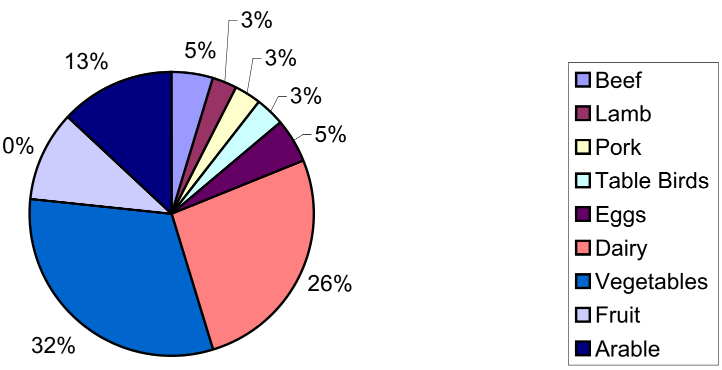
d) Work with multiples to build availability and accessibility of seasonal organic goods.

5. Overall penetration levels and recommendations

5.0. The market penetration of indigenous organic produce in Scotland
The aim of this project was to investigate the level of market penetration of indigenous organic food in Scotland. Previous chapters have presented production figures, details of how and where produce is processed and ultimately where it is sold. All of the information that has been collected and analysed has enabled the project team to develop approximate market penetration levels for each of the sectors. However, this does not generate an overall market penetration figure for Scotland. To do this, the results need to be combined with details of consumer purchases.

Figure 5.1 presents a breakdown of organic food and drink sales in the UK 2004[25]. Table 5.1 presents estimated penetration levels for each of the sectors discussed in chapter 3, the share of organic retail sales for each sector and finally each sector is awarded a 'score' which counts towards the overall penetration figure. The 'score' for each sector was calculated by determining the proportion of the overall market value sourced from within Scotland. For example, Scottish organic beef is estimated to have a market penetration level of 71% and organic beef accounts for 5% of the organic market. 71% of 5 is 3.5 which is stated in the final column. The values calculated for each sector were combined to generate an overall market penetration figure for indigenous organic produce.

Figure 5.1. Organic food and drink sales in the UK, 2004



Source: Mintel 2005[25]

Table 5.1. The market penetration of indigenous organic produce in Scotland 2005

Sector	Estimated penetration level	Share of organic retail sales[25]	Value towards overall penetration figure
Beef	71%	5%	3.5
Lamb	96%	3%	2.9
Pork	0%	3%	0
Table birds	80%	3%	2.4
Eggs	60%	5%	3
Dairy	40%	26%	10.4
Horticulture – vegetables	60%	32%	19.2
Horticulture - fruit	33%	10%	3.3
Arable	30%	13%	3.9
Aquaculture	90%	??	1
Total overall market penetration for indigenous organic food			**50%** (49.6)

5.1. Recommendations

The market penetration level of 50% is a significant improvement on the estimated level of 35% presented in the Organic Action Plan (2003). However, it is clear that there is much more that could be done to help Scotland's organic sector move towards the market penetration targets set by SEERAD. The remit of this report was not only to calculate market penetration levels for the organic sector but also to highlight strategies for improving the performance of the sector.

Of particular concern to the research team is the loss of provenance of products within the organic supply network particularly in the beef, lamb, pork and arable sectors. This reduces the sustainability of Scotland's organic supply network and also makes it difficult to develop market penetration statistics. In retrospect it was inevitable that this would happen in these sectors especially when processing facilities are limited due to their concentration in England and the decline in the number of abattoirs in post BSE Britain. This has resulted in a large number of livestock being sent outwith Scotland for slaughtering and particularly further processing. Simultaneously, processing facilities for arable crops have also declined resulting in dependence upon facilities outwith Scotland.

To address this, SEERAD could make a determined effort to regain and maintain the provenance of indigenous organic produce. To achieve this it is necessary to increase the number of organically certified arable and livestock processing facilities. This would not only keep more of the products in Scotland and therefore increase employment and the overall value of the sector to Scotland's economy, but also help to stop Scottish organic livestock and arable products being lost in the UK's organic supply network. This, in turn, would regain provenance of ingredients and end products and overall market penetration.

The project has highlighted that there needs to be systematic collection of data as regards the processing and sale of Scottish organic produce. Processors and retailers should be required to hold this information and make it available on request to SEERAD.

It is apparent that with the appointment of a milk marketing manager to SOMPA, the organic dairy sector saw a considerable improvement in its fortunes. The close attention that the marketing manager was able to provide ensured that marketing challenges were overcome and demand was met. This sort of programme could be replicated across Scotland's organic supply network but producers are likely to need support in the early stages of organising themselves into co-operative groups. Therefore SEERAD should continue to encourage producers to work collaboratively, help to create more opportunities for bringing producers together, offer training and make resources available that could aid producers to work in collaboration.

Whilst the dairy sector has benefited greatly from the efforts of the marketing manager, there is nevertheless a need to develop the processing capacity of the sector. Without this, the processed organic dairy sector will continue to be dominated by brands from outwith Scotland. With dairy accounting for a considerable percentage of the organic market, significant increases in market penetration could be achieved if this was addressed.

The report suggests that there is a general shortfall in organic processing capacity in Scotland. This should be evaluated more thoroughly with an assessment of obstacles to further development and whether present schemes, assistance and advice need fine-tuning or whether new initiatives are required. In particular, some processors may not feel that there is a significant business advantage in being certified to handle organic produce, although the organic industry upstream and downstream would gain by their services; examples include abattoirs, manufacturers of pasteurised egg and companies producing fruit puree for use in yoghurts and ice creams.

The report has highlighted that penetration levels for the arable sector are surprisingly low. Part of the reason for this is the lack of processing facilities as stated above. However, it is also clear that there is a shortfall in production and therefore in conjunction with improvements in processing capacity, a simultaneous increase in the amount of arable land is required to improve overall penetration levels.

Organic horticulture in Scotland appears to be polarised with organic root crops performing extremely well resulting in a significant amount of produce being marketed outwith Scotland, but other vegetable and salad crops not faring as well partly due to less favourable growing conditions. To improve on this there needs to be considerable investment into increasing the amount of polytunnel growing in Scotland.

Support for the horticultural sector, especially fruit, needs to go beyond financial support. An assessment of research needs would be useful in helping the sector to develop the appropriate crop types, strains and techniques that are suitable for Scotland's climate and growing season. This sort of research could be extended to include the whole organic sector ultimately helping producers to make choices regarding the management of their farm that will improve their efficiency, increase overall supply and subsequently increase overall market penetration levels.

The multiple retailers active in Scotland should be encouraged to sell organic products with fully traceable Scottish provenance. Therefore it is necessary to revisit the issue of branding of indigenous organic products as Scottish. In line with previous recommendations[8] multiple and independent retailers could be encouraged to brand unprocessed organic produce with a Scottish label of origin, side-stepping the issues surrounding multiple ingredient products.

Producers throughout the Scottish organic supply network should be encouraged to develop local, direct sales supply networks. Attempts should be made to tie these in with consumer initiatives with the aim of improving access to fresh and affordable organic produce for those on low incomes. This would create sustainable and compact supply networks, increase the consumption of locally produced organic food, increase market penetration levels and keep profits local.

The role of consumers is vital in shaping Scotland's organic supply network. Therefore, if levels of market penetration are to increase, there needs to be a concerted effort to inform consumers of the choices available to them as regards organic food and how these choices impact on their own health and Scotland's environment and economy.

Consumers should be encouraged to:-

- enjoy seasonal Scottish produce;
- be more aware of existing country of origin labelling schemes and the benefits of buying Scottish produce;
- be aware of different methods of buying directly from producers and encouraged to purchase locally;
- engage in activities that reconnect them with Scottish farming.

It must be stressed that any future activities and/or projects aimed at increasing levels of market penetration need to be holistic from their inception. They should encompass the entire supply network so that supply, processing and demand can be developed simultaneously, thus ensuring social, economic and environmental sustainability.

Appendix I

Methodology

Producer Survey
In order to gain information on production volumes, farm gate values and market outlets for organic produce a postal survey of organic producers in Scotland was conducted (See Appendix 2).

- Mailing lists were obtained from the organic certification bodies and additional checks were made on the internet.
- The research team identified 632 producers. However 26 were new entrants and they would not have had organic produce for sale during the 12 month period preceding the survey.
- In conjunction with SAC a postal questionnaire was sent to 606 organic producers based in Scotland on the 13th May 2005.
- A 42% response rate was achieved.
- Dairy producers were not asked to contribute volume and production data as this information was provided by the Scottish Organic Milk Producers Marketing Manager.

Processor Survey
To gain information on organic processors in Scotland, face to face and telephone interviews were conducted to establish business and marketing strategies and perceived threats and business opportunities to the Scottish organic sector.

- The Project Team conducted eight face to face interviews in May 2005 to pilot an interview structure. Following the trial, an interview schedule was developed covering key questions.
- Over a ten-week period, approximately 150 organic processing businesses, 32 independent retailers and all of the multiple retailers operating in Scotland were contacted and interviewed by telephone.
- In some instances a short questionnaire was emailed or faxed through to the interviewee to help them gather the required information (see appendix 2).
- Over 30 companies completed and returned questionnaires electronically.

Farm gate values

- Average price from 'Eye on the Market' in *Organic Farming* journal. Average weight estimated using industry knowledge and the *Farm Management Handbook 2004*.

Market Penetration Levels by sector:
Market Penetration levels for each sector were calculated by using a combination of results from the producer, processor, retailer and consumer surveys. Different levels of information were gathered by the research team, so methodologies differed slightly for each sector.

Beef:

- Producers were asked how and where they marketed their produce and volumes sold.
- Processors and retailers were asked where they sourced their produce and volumes bought
- From the survey results it was found that 15% of organic beef produced in Scotland was sold to abattoirs based in Scotland, 15% was sold directly in Scotland and 5% was sold to independent retailers the remainder was unknown or sold to abattoirs in England.
- For the purpose of this calculation it is assumed that if meat is processed in Scotland it is retailed in Scotland and it is assumed that the independent retailers are located in Scotland. Therefore, it is estimated that 35% of the organic beef produced in Scotland is retailed in Scotland.
- It is estimated that 52,118.9 cattle were consumed in the UK in 2004 (UK production is an estimated 19,284 and 63% organic beef consumed is imported)

According to TNS research Scottish consumers account for 5.4%, of the retail value of organic food. It is assumed that this figure is representative across the sector.

- 5.4% of the UK's total beef consumption = the equivalent of 2,814.4 cattle consumed in Scotland.
- OML estimate that Scotland produces 5,751 organic cattle a year and an estimated 35% of this is processed in Scotland.
- 35% of the 5,751 cattle produced in Scotland = 2,012.85, which is 71.5% of the amount consumed in Scotland.
- Therefore, Scotland has the ability to be 100% self sufficient in organic beef, however, it is estimated that market penetration currently stands at 71.5%.
- Stakeholders were contacted to verify the results.

Lamb
- Producers were asked how and where they marketed their produce and volumes sold.
- Processors and retailers were asked where they sourced their produce and volumes bought
- The surveys suggest that whilst production far exceeds demand in Scotland, the majority of the lamb is traded throughout the UK via the multiple retailers, accounting for 90% of Scottish organic lamb production. As little as 30% is definitely retained in Scotland for sale direct to consumers or through independent and multiple retailers. Therefore a total of 30% of the organic lamb produced in Scotland, remains in Scotland
- According to TNS research Scottish consumers account for 5.4%, of the retail value of organic food. It is assumed that this figure is representative across the sector.
- 5.4% of the UK's total organic lamb consumption = the equivalent of 10,200 lambs consumed in Scotland.
- OML estimate that 60,000 lambs were sold as organic and an estimated 30% (18,000) are retained in Scotland for retail and further processing.
- However, during April, May and June, production falls to 2,151, 2,304 and 2,284 lambs respectively. Whilst this could cater for domestic demand, it is assumed that only 30% of this will remain within Scotland. This results in 685, 645 and 691 carcasses being available for domestic consumption which is below the 791 carcasses needed to satisfy demand. If these figures are added to the 9 months of the year when demand is met and levels recalculated penetration falls slightly.
- Therefore, the Scottish organic lamb market has achieved 96% market penetration.
- Stakeholders were contacted to verify results.

Pork
- Producers were asked how and where they marketed their produce and volumes sold.
- Processors and retailers were asked where they sourced their produce and volumes bought.
- The surveys suggest that whilst production far exceeds demand in Scotland, the majority of the pork is traded throughout the UK via the multiple retailers, accounting for 96% of Scottish organic pork production.
- According to TNS research Scottish consumers account for 5.4%, of the retail value of organic food. It is assumed that this figure is representative across the sector.
- 5.4% of the UK's total organic pork consumption = the equivalent of 5,076 organic pigs consumed in Scotland
- 7,000 organic pigs are finished in Scotland, which suggests that Scotland has the ability to be 100% self sufficient in organic pork. However, there is no way of tracking where Scottish organic pork is retailed as it is traded anonymously throughout the UK and it is impossible to calculate a market penetration level.
- Stakeholders were contacted to verify results.

Table birds
- Producers were asked how and where they marketed their produce and volumes sold.
- Processors and retailers were asked where they sourced their produce and volumes bought.
- Survey results suggest that the sector is unable to satisfy demand and therefore market penetration for organic table birds currently stands at 80%

Eggs
- Producers were asked how and where they marketed their produce and volumes sold.
- Processors and retailers were asked where they sourced their produce and volumes bought.
- Survey results suggest that market penetration for organic eggs currently stands at 60%

Dairy
- This section was written by SOMPA's marketing manager with additional information taken from the processor survey to ascertain processing activities in Scotland.

Horticulture
- Producers were asked how and where they marketed their produce and volumes sold.
- Processors and retailers were asked where they sourced their produce and volumes bought
- The survey suggests that 80% of root crops and 35% of other vegetables and salads consumed in Scotland are produced in Scotland.
- Root crops account for approximately one third of vegetable sales. Therefore 80% of one third = 26.4.
- Other vegetables and salads account for the remaining two thirds of vegetable sales. Therefore 35% of two thirds = 23.1.
- Therefore by adding these two figures together it is possible to calculate the market penetration level for organic vegetables of 50% (49.5%).
- 70% of all organic fruit consumed is exotic/citrus, Of the remaining 30%, the survey found that 10% is sourced from within Scotland. This equates to a market penetration figure of 33%.

Arable
- Producers were asked how and where they marketed their produce and volumes sold.
- Processors and retailers were asked where they sourced their produce and volumes bought.
- Based on results from the processor survey, market penetration for organic arable crops in Scotland is an estimated 30%.

Aquaculture
- Producers were asked how and where they marketed their produce and volumes sold.
- Processors and retailers were asked where they sourced their produce and volumes bought.
- Based on the results of the processor and retailer survey, market penetration for organic aquaculture is estimated to be 90%.

Consumer Data
Taylor Nelson Sofres (TNS) were contracted to provide information on consumer trends and purchasing patterns and the value of the retail market for organic produce in Scotland.
- Information from the TNS Superpanel (a continuous consumer market research panel) generated data regarding consumer trends in Scotland.
- In addition an omnibus survey asking additional questions directly relevant to the project proposal was conducted.
- The following questions were asked in the omnibus survey:

- Do you buy organic food or drink at all nowadays?
- Do you actively look for Scottish Organic food and drink to buy?
- Where do you buy your organic goods from and most often?
- What factors, if any, deter you from buying Scottish organic goods?
- What Scottish organic goods to you tend to buy most often?

- A summary of the TNS report is included in chapter 4. The full report is in Appendix 2.

Overall market penetration level of Scottish organic produce:
- The total retail market for organic produce is broken down by sector.
- To calculate what proportion of the overall market value was sourced from within Scotland the percentage level of penetration by sector was taken from that sectors share of total organic retail sales to give a sector value towards an overall penetration figure for Scotland. For example, Scottish organic beef is estimated to have a market penetration level of 71% and organic beef accounts for 5% of the organic market. 71% of 5 is 3.5, which is the beef sectors value used to calculate the overall penetration figure for Scotland.

Appendix II

Producer survey

SAC ORGANIC MARKET LINK PRODUCER SURVEY

All Certified Organic Producers are asked to complete this front page, and thereafter, just the relevant sections

Q1: Name of Business	
Q2: Contact Name	
Q3: Address of Producer	
Q4: Postcode	
Q5: Business Phone Number	
Q6: Mobile Phone Number	
Q7: Which certification body are you registered with?	
Q8: Organic certification membership number?	

Q9: Please tick all enterprises that are relevant to your organic business

Finished Beef Cattle		Dairy		Eggs		Vegetables	
Finished Lamb		Grain		Pigs		Let out all land	
Store Cattle		Pulses		Fish		Still in conversion	
Store Lambs		Table Birds		Fruit		Other – please specify below	

Q10: If processors or traders request from us specific information on sources of supply, are you content for your supply details to be forwarded to them by us? (**please tick one box**)

Yes ☐

No ☐

Thank you for taking time to complete this survey. For ease of completion each enterprise is on a different coloured sheet of paper, so you will only have to complete the sections relevant to your particular business.

PLEASE FEEL FREE TO USE THE SPACE BELOW TO ANSWER ANY QUESTIONS MORE FULLY OR TO WRITE ANY ADDITIONAL COMMENTS OR INFORMATION. THANK YOU

IF YOU PRODUCE OR SELL *ORGANIC BEEF CATTLE*, **PLEASE COMPLETE THIS SECTION AS FULLY AS POSSIBLE**

QB1: Do you produce or sell **finished organic cattle**?

Yes ☐
No ☐ If no, please go to **QB8**

QB2: In each box, please write your best estimate regarding the approximate number of **finished organic cattle** you expect to have available each month for the coming year.

July 2005		January 2006	
August 2005		February 2006	
September 2005		March 2006	
October 2005		April 2006	
November 2005		May 2006	
December 2005		June 2006	

QB3: Have you already identified market outlets for your 2005/06 crop of **finished organic cattle**?

Yes ☐
No ☐ If no, please go to **QB6**

QB4: If yes, where do you expect to sell your **finished organic cattle**?

Name of main outlet ☐

Name of other outlets used ☐

QB5: What percentage of your total crop of **finished organic cattle** will go to the main outlet?

Less than 25% ☐ 25 – 50% ☐ 51 – 75% ☐ 76 – 90% ☐ More than 90% ☐

QB6: To what extent do you expect your number of **finished organic cattle** to change over the next couple of years? (ie between 2006 – 2008) Please tick only one box

Increase significantly ☐

Increase marginally ☐

Remain similar numbers to present ☐

Decrease marginally ☐

Decrease significantly ☐

QB7: Where or to whom, did you sell last years (between July 2004 and June 2005) crop of **finished organic cattle**? Where possible, give as much detail regarding the **location** of the market

Market Outlet	Please tick market(s) used	Approximate number of finished organic cattle sold to each market outlet	Average price per kilo received for finished organic cattle (excl. transport & commission)	Please give extra details where applicable (e.g. name of abattoir, location of Farm Shop)
Direct to abattoir				
Mail order/ Box scheme				
Farmers Market				
Farm Shop				
Own Use				
Other (please specify)				

QB8: Do you usually sell your beef cattle **before finishing i.e. as stores or weaned calves**?

Yes ☐

No ☐ If no, please go to **QB11**

QB9: In each box, please write your best estimate regarding the approximate number of **organic store cattle** you expect to have available each month of the coming year.

July 2005		January 2006	
August 2005		February 2006	
September 2005		March 2006	
October 2005		April 2006	
November 2005		May 2006	
December 2005		June 2006	

QB10: What or whom is your usual market outlet for **stores or weaned calves**?

QB11: If you buy in organic livestock feed, please complete the following table:

Name of source (Direct from producer, Feed mill etc)	**Quantity (tonnes)**

QB12: **Finally**, please indicate if the following factors 'have had' or 'are having' a positive or negative impact on your farm business activities.

	Negative impact	No impact	Positive impact
OAS Conversion payments			
OAS Maintenance grants			
Retailer/abattoir specifications			
Organic Standards			
Locality of organically registered abattoir/butcher			
Scottish origin/logo			
Other factors (please specify)			

IF YOU PRODUCE OR SELL *ORGANIC LAMB*, PLEASE COMPLETE THIS SECTION AS FULLY AS POSSIBLE

QL1: Do you produce or sell **finished organic lamb**?

Yes ☐
No ☐ If no, please go to **QL8**

QL2: In each box, please write your best estimate regarding the approximate number of **finished organic lambs** you expect to have available each month of the coming year.

July 2005		January 2006	
August 2005		February 2006	
September 2005		March 2006	
October 2005		April 2006	
November 2005		May 2006	
December 2005		June 2006	

QL3: Have you already identified market outlets for your 2005/06 crop of **finished organic lambs**?

Yes ☐
No ☐ If no, please go to **QL6**

QL4: If yes, where do you expect to sell your **finished organic lamb**?

Name of main outlet ☐

Name of other outlets used ☐

QL5: What percentage of your total crop of **finished organic lambs** will go to the main outlet?

Less than 25% ☐ 25 – 50% ☐ 51 – 75% ☐ 76 – 90% ☐ More than 90% ☐

QL6: To what extent do you expect your number of **finished organic lambs** to change over the next couple of years? (ie between 2006 – 2008) Please tick only one box

Increase significantly ☐
Increase marginally ☐
Remain similar numbers to present ☐
Decrease marginally ☐
Decrease significantly ☐

QL7: Where or to whom, did you sell last years (between July 2004 and June 2005) crop of **finished organic lambs**? Where possible, give as much detail regarding the **location** of the market

Market Outlet	Please tick market(s) used	Approximate number of finished organic lambs sold to each market outlet	Average price per kilo received for finished organic lambs (excl. transport & commission)	Please give extra details where applicable (e.g. name of abattoir, location of Farm Shop)
Direct to abattoir				
Mail order/ Box scheme				
Farmers Market				
Farm Shop				
Own Use				
Other (please specify)				

QL8: Do you usually sell your lambs **before finishing i.e. as stores**?

Yes ☐

No ☐ If no, please go to **QL11**

QL9: In each box, please write your best estimate regarding the approximate number of **organic store lambs** you expect to have available each month of the coming year.

July 2005	
August 2005	
September 2005	
October 2005	
November 2005	
December 2005	

January 2006	
February 2006	
March 2006	
April 2006	
May 2006	
June 2006	

QL10: What or whom is your usual market outlet for **store lambs?**

QL11: If you buy in organic livestock feed, please complete the following table:

Name of source (Direct from producer, Feed mill etc)	Quantity (tonnes)

QB12: **Finally**, please indicate if the following factors 'have had' or ' are having' a positive or negative impact on your farm business activities.

	Negative impact	No impact	Positive impact
OAS Conversion payments			
OAS Maintenance grants			
Retailer/abattoir specifications			
Organic Standards			
Locality of organically registered abattoir/butcher			
Scottish origin/logo			
Other factors (please specify)			

IF YOU SELL OR PRODUCE *ORGANIC GRAINS AND PULSES*, PLEASE COMPLETE THIS SECTION AS FULLY AS POSSIBLE

HARVEST 2005

QG1: Please indicate variety of organic grain and organic pulses you are growing for **2005 harvest** (e.g. Optic)

	Variety
Feed Wheat	
Milling Wheat	
Feed Barley	
Malting Barley	
Oats	

	Variety
Triticale	
Peas	
Beans	
Rape	
Lupins	

QG2: From where did you source your organic seed?

	Source
Feed Wheat	
Milling Wheat	
Feed Barley	
Malting Barley	
Oats	

	Source
Triticale	
Peas	
Beans	
Rape	
Lupins	

QG3: Please indicate your best estimate regarding the **TOTAL TONNAGE** of organic grains and pulses which you anticipate you will produce during this season **(2005).** Please **INCLUDE** in this estimate the amount you intend to retain for your own on-farm use.

	tonnes
Feed Wheat	
Milling Wheat	
Feed Barley	
Malting Barley	
Oats	

	tonnes
Triticale	
Peas	
Beans	
Rape	
Lupins	

QG4: Please indicate your best estimate regarding the **TOTAL TONNAGE** of organic grains and pulses you anticipate **WILL BE AVAILABLE TO TRADE** after this harvest **(2005)** Please **DISCOUNT** the amount you would normally retain for your own on-farm use.

	tonnes
Feed Wheat	
Milling Wheat	
Feed Barley	
Malting Barley	
Oats	

	tonnes
Triticale	
Peas	
Beans	
Rape	
Lupins	

QG5: If you have already **IDENTIFIED A MARKET OUTLET** for your **2005 grain and pulse crop**, please indicate this outlet below.

	Outlet
Feed Wheat	
Milling Wheat	
Feed Barley	
Malting Barley	
Oats	

	Outlet
Triticale	
Peas	
Beans	
Rape	
Lupins	

PREVIOUS GRAIN TRADING HISTORY – HARVEST 2004

QG6: What was the average price ex-farm (excluding transports costs) realised and the market outlet for your **2004 crop of organic grain and pulses**?

	£/tonne	Market Outlet
Feed Wheat		
Milling Wheat		
Feed Barley		
Malting Barley		
Oats		

	£/tonne	Market Outlet
Triticale		
Peas		
Beans		
Rape		
Lupins		

QG7: Did you manage to sell satisfactorily your entire **2004 crop of organic grain and pulses**?

Yes ☐ If yes, please go to **QG9**

No ☐

QG8: If no, please specify **what was unsatisfactory about selling last years organic grain and pulse crop**

QG9: **Finally**, please indicate if the following factors 'have had' or 'are having' a positive or negative impact on your farm business activities.

	Negative impact	No impact	Positive impact
OAS Conversion payments			
OAS Maintenance grants			
Availability of crop varieties			
Organic Standards			
Climate/growing conditions			
Specifications/requirements from outlet (e.g. feed mill)			
Scottish origin/logo			
Presence of imports			
Other factors (please specify)			

IF YOU PRODUCE OR SELL *ORGANIC TABLE BIRDS*, PLEASE COMPLETE THIS SECTION AS FULLY AS POSSIBLE

QTB1 Is your poultry enterprise operated under contract agreement?

Yes ☐ If yes, please go to **QTB2**

No ☐ If no, please go to **QTB3**

QTB2 Who is the contract with?

____

QTB3 Where or from whom do you source your chicks from? (*please state region*)

____

QTB4 In each box, please write your best estimate regarding the approximate number of organic table birds you **expect** to have available each month in the coming year

July 2005	
August 2005	
September 2005	
October 2005	
November 2005	
December 2005	

January 2006	
February 2006	
March 2006	
April 2006	
May 2006	
June 2006	

QTB5: If you buy in organic livestock feed, please complete the following table:

Name of source (Direct from producer, Feed mill etc)	**Quantity** (tonnes)

QTB6: Where or to whom, did you sell **last years** (between July 2004 and June 2005) crop of **organic table birds**? Where possible, give as much detail regarding the **location** of the market

Market Outlet	**Please tick the market(s) you use**	**Approximate number of finished organic birds sold to each market outlet**	**Average price per kilo received for your finished organic birds** (excluding transport and commission)	**Please give extra details where applicable (e.g. name of abattoir, location of Farm Shop)**
Direct to abattoir				
Meat sold through mail order/box scheme				
Farmers Market				
Farm Shop				
Own Use				
Other (please specify)				

QTB7: Finally, please indicate if the following factors have had or /are having a positive or negative impact on your farm business activities.

	Negative impact	No impact	Positive impact
OAS Conversion payments			
OAS Maintenance grants			
Retailer/abattoir specifications			
Organic Standards			
Locality of organically registered abattoir/butcher			
Scottish origin/logo			
Other (please specify)			

IF YOU SELL OR PRODUCE *ORGANIC PIGS*, PLEASE COMPLETE THIS SECTION AS FULLY AS POSSIBLE

QP1 Is your pig enterprise operated under contract agreement?

Yes ☐ If yes, please go to **QP2**
No ☐ If no, please go to **QP3**

QP2 Who is the contract with?

____

QP3 Do you take your pigs through to finishing?

Yes ☐ If yes, please go to **QP7**
No ☐ If no, please go to **QP4**

QP4 Do the weaners leaving your holding remain in Scotland for finishing?

Yes ☐ If yes, please go to **QP6**
No ☐ If no, please go to **QP5**

QP5 Where or to whom do you sell the weaners onto?

____

QP6 In each box, please write approximately how many weaners you sold in the **previous 12 months** and the average price per kilo at farm gate

	Quantity	£/kg
May 2004		
June 2004		
July 2004		
August 2004		
September 2004		
October 2004		

	Quantity	£/kg
November 2004		
December 2004		
January 2005		
February 2005		
March 2005		
April 2005		

QP7 In each box, please write your best estimate regarding the approximate number of **finished** organic pigs you expect to have available each month in the coming year **(July 2005 to June 2006)**

July 2005	
August 2005	
September 2005	
October 2005	
November 2005	
December 2005	

January 2006	
February 2006	
March 2006	
April 2006	
May 2006	
June 2006	

QP8: If you buy in organic pig feed, please complete the following table:

Name of source (Direct from producer, Feed mill etc)	**Quantity** (tonnes)

QP9: Where or to whom, did you sell last years (between July 2004 and June 2005) crop of **finished organic pigs**? Where possible, give as much detail regarding the **location** of the market

Market Outlet	**Please tick the market(s) you use**	**Approximate number of finished organic pigs sold to each market outlet**	**Average price kilo received for your finished organic pigs** (excluding transport and commission)	**Please give extra details where applicable (e.g. name of abattoir, location of Farm Shop)**
Direct to abattoir				
Meat sold through mail order/box scheme				
Farmers Market				
Farm Shop				
Own Use				
Other (please specify)				

QP10: Finally, please indicate if the following factors 'have had' or 'are having' a positive or negative impact on your farm business activities.

	Negative impact	No impact	Positive impact
OAS Conversion payments			
OAS Maintenance grants			
Retailer/abattoir specifications			
Organic Standards			
Locality of organically registered abattoir/butcher			
Scottish origin/logo			
Other (please specify)			

IF YOU SELL OR PRODUCE *ORGANIC FISH*, PLEASE COMPLETE THIS SECTION AS FULLY AS POSSIBLE

QF1 What type of organic fish do you farm? (Please tick all that apply)

Brown Trout ☐
Rainbow Trout ☐
Salmon ☐

QF2 Is your fish enterprise operated under contract agreement?

Yes ☐ If yes, please go to **QF3**
No ☐ If no, please go to **QF4**

QF3 Who is the contract with?

____

QF4 In each box, please write your best estimate regarding the approximate tonnage of organic fish (whole, fish/pre-gutting) you expect to have available each month in the coming year

July 2005	
August 2005	
September 2005	
October 2005	
November 2005	
December 2005	

January 2006	
February 2006	
March 2006	
April 2006	
May 2006	
June 2006	

QF5 What percentage of your 2005-6 crop have you already found a market for? **(Please circle the range closest to your estimation)**

0-24% 25-49% 50-74% 75-100%

QF6 Where or to whom did you sell last years (between April 2004 and March 2005) crop of organic fish? Where possible, give as much detail regarding the **value** and **location** of the market

Market Outlet	**Please tick the market(s) you use**	**Approximate tonnage of organic fish sold to each market outlet**	**Average price per kilo you received for organic fish** (excluding transport and commission)	**Please give extra details where applicable e.g. name of wholesaler, location of specialist shop**
Direct to wholesale for retailers				
Fish sold through your own mail order/box scheme				
Farmers Market				
Direct to wholesaler for processing				
Direct to specialist shop				
Other (please specify)				

QF7 **Finally**, please indicate if the following factors have a or have had a positive or negative impact on your farm business activities.

	Negative impact	**No impact**	**Positive impact**
Retailer/Wholesaler specifications			
Organic Standards			
Locality of organically registered processing /packaging plant			
Scottish origin/logo			
Organic symbol/logo			
Presence of imports			
Other, please specify			

IF YOU PRODUCE *ORGANIC FRUIT AND/OR VEGETABLES*, PLEASE COMPLETE THIS SECTION AS FULLY AS POSSIBLE

QH1 Do you grow any fruit or vegetables under contract agreement?

Yes ☐ If yes, please go to **QH2**

No ☐ If no, please go to **QH3**

QH2 What crops are under contract and who is the agreement with?

Crop	Volume for contract (tonnes/kg)	Please state who the contract is with, including their location

QH3 Please indicate the **crops** and **quantity** of ORGANIC FRUIT and VEGETABLES grown on your holding for **2004/2005 harvest**

Potatoes	**Seed**	**Ware**	**Quantity (tonnes/kg)**
Green vegetables			
Root crops			
Salad and protected cropping			
Top Fruit			
Soft Fruit			
Other (please specify			

QH4 Please list the **species** and **quantities** and **value** of ORGANIC FRUIT and VEGETABLES grown on your holding in **2004**
(e.g. leeks, carrots, broccoli, mushrooms, herbs, gooseberries)

Crop	Quantity (tonnes/kg)	Value (£/t or £/kg)	Crop	Quantity (tonnes/kg)	Value (£/t or £/kg)

QH5 Please complete the table below indicating where you **market your produce**. Where possible, give as much detail regarding the **location** of the market and the nature of any agreement

Market Outlet	Please tick the market(s) you use	Please give extra details where applicable	Location of market (please specify region/country)
Contract			
Farmers Market			
Farm Shop			
Home Saved/Own use			
Mail			

Order/Other Box scheme			
Your own food processing business			
Direct to wholesaler			
Direct to shop (please specify)			
Other (please specify)			

QH6 **Finally**, please indicate if the following factors 'are having' or 'have had' a positive or negative impact on your farm business activities.

	Negative impact	No impact	Positive impact
Customer/retailer requirements			
OAS Conversion payments			
OAS Maintenance grants			
Availability of crop varieties			
Organic Standards			
Scottish origin/logo			
Presence of imports			
Locality of organically registered pack/wash plant/wholesaler			
Availability of seasonal labour			
Climate/growing conditions			
Other, please specify			

IF YOU PRODUCE OR SELL *ORGANIC EGGS*, PLEASE COMPLETE THIS SECTION AS FULLY AS POSSIBLE

QE1 Is your egg enterprise operated under contract agreement?

Yes ☐ If yes, please go to **QF2**

No ☐ If no, please go to **QF3**

QE2 Who is the contract with?

____

QE3 Where or from whom do you source your laying hens from?

____

QE4 In each box, please write your best estimate regarding the approximate number of organic eggs you expect to have available each month in the coming year

July 2005		January 2006	
August 2005		February 2006	
September 2005		March 2006	
October 2005		April 2006	
November 2005		May 2006	
December 2005		June 2006	

QE5 If you buy in feed for your laying hens, please complete the following table

Name of source (Direct from producer, Feed mill etc)	**Quantity** (kg or tonnes)

QE6 Where or to whom did you sell last years (between April 2004 and March 2005) crop of organic eggs? Where possible, give as much detail regarding the **value** at farm gate and the **location** of the market

Market Outlet	**Please tick the market (s) you use**	**Approximate quantity of organic eggs sold to each market outlet** (dozen)	**Average price per dozen received for organic eggs** (excluding transport and commission)	**Please give extra details where applicable e.g. name of wholesaler, location of specialist shop**
Direct to wholesale for retailers				
Eggs sold through your own mail order/box scheme				
Farmers Market				
Farm Shop				
Direct to specialist shop				
Other (please specify)				

QE7 **Finally**, please indicate if the following factors which have a or have had a positive or negative impact on your farm business activities.

	Negative impact	No impact	Positive impact
Retailer/Wholesaler specifications			
Organic Standards			
Locality of organically registered processing /packaging plant			
Scottish origin/logo			
Organic symbol/logo			

Appendix III

Processor survey

Processor interview schedule

The aim of the project is to investigate the level of market penetration of organic food produced in Scotland. Last year Scottish Food and Drink carried out a survey of all the processors in Scotland who are involved in manufacturing organic food and drink. Because the data they collected during the SF&D project has been kept confidential, I'm afraid there may be an overlap in the questions I ask you.

1. Company name

2. Contact name

3. Contact telephone number

4. Email address

5. Date of contact

6. Organic business type – confirm
   a. Meat handling
   b. Fruit and Veg packing/washing
   c. Beverages
   d. Dairy
   e. Prepared food (meals/jams/sauces etc)
   f. Aqua-culture processing
   g. Cereals – milling baking
   h. Cereals – animal use
   i. Other

7. How many organic product lines do you do or what % of your business is organic?

   a. number
   b. percentage
   c. other

8. Business turnover

   % organic from total
   Total turnover if 100% organic

9. History of organic business/product lines

Sourcing – finding out about Scottish ingredients/raw products

Volume of organic products bought in

Volume of Scottish organic products bought in

Value of Scottish organic goods bought in

Who are your suppliers

Producers
Producer group/co-op
Dealer
Wholesaler

Who are your customers

Back to producer
Wholesaler
Multiple retailer
Specialist shop
Mail order / box scheme

8. Do you use organic ingredients in your organic products?

9. Would you be willing to share the reason for this?

    a. Availability of the products needed
    b. Quality
    c. Seasonality
    d. Cost of ingredients
    e. Organic standards related
    f. Other ______

10. Reasons for buying Scottish organic ingredients

Appendix IV

Organic purchasing behaviour in Scotland
Taylor Nelson Sofres
5th July 2005

Organic purchasing behaviour in Scotland

5th July 2005

Organic purchasing behaviour in Scotland
The Soil Association

5th July 2005

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Background
TNS System Three was commissioned by The Soil Association to conduct research on the organic purchasing behaviour of the general Scottish population. In addition, to add context to the results, TNS Superpanel provided background information on organic expenditure as well as demographic profiles of organic purchasers.

The TNS System Three Omnibus survey, Scottish Opinion Survey (SOS), was used as a means of data collection for the general population survey. A sample of 1054 adults aged 16 and over was interviewed in-home in 42 constituencies throughout Scotland over the period 21st – 27th April 2005.

To ensure that the sample was representative of the adult population in terms of age, sex and class, it was weighted to match population estimates from the National Readership Survey of January – December 2004. The sample profile, both unweighted and weighted, is shown below.

Table A.1 – Sample Profile
Base: 1054 (%)

		Unweighted	Weighted
SEX:	Male	45	48
	Female	55	52
AGE:	16-24	12	13
	25-34	17	15
	35-44	19	18
	45-54	17	18
	55-64	14	15
	65+	22	21
CLASS:	AB	16	22
	C1	27	29
	C2	25	21
	DE	32	29

A copy of the questionnaire used in the survey is appended.

Main findings – Omnibus research
The main findings from the Omnibus research are shown in the following paragraphs. Full data tabulations are appended.

B.1 Organic purchasing behaviour nowadays
Respondents were firstly asked whether they buy organic food or drink **nowadays**. At the total level, 37% of respondents claimed to do so. There were however differing patterns amongst some of the demographic sub groups:

- females were more likely to purchase organic food or drink than males (40% vs 33%);
- likelihood to purchase organic food or drink declined with socio-economic status social classes (55% of ABs, 37% of C1s, 30% of C2s and 28% of DEs);
- those aged 45-54 were most likely to purchase organic food or drink (47%) whilst those aged 16-24 were by far the **least** likely to do so (27%).

B.1.1 Whether actively look for Scottish organic food and drink to buy
All those who claimed to buy organic food or drink were then asked whether or not they actively seek Scottish organic food or drink and 42% of the sample responded positively. Demographically, those aged 45+ were more likely to look for these products than those aged 16-44 (50% vs 32%).

B.1.2 Where organic food purchased from

All those who claimed to buy organic food or drinks were then asked where they purchased these goods from. The results are shown in Table B.1.

Table B.1: Where organic goods purchased from

Base: All who buy organic food or drink nowadays

	%
Supermarket	93
Farmers market	19
Farm shops	11
Health food shop	10
Local shop	2
Base:	**370**

Almost universally, respondents claimed to purchase organic goods from supermarkets (93%). Around a fifth (19%) claimed to purchase organic goods from a farmers market and 11% from farm shops. Health food shops were the only other source mentioned by more than 2% of respondents (10%).

Given the almost universal usage of supermarkets amongst the sample, it is to be expected that levels of usage of this source were high across all the demographic sub groups. There were however some key differences within demographics on certain other sources. Farmers markets, for example, were much more widely used amongst those of social classes AB than any other group (35% vs 13% of those in classes C1C2 and 5% amongst DEs). Males were also more likely to purchase from farmers markets than females (24% vs 15%). Health food shops on the other hand were more likely to be used by females than males (13% vs 4%).

B.1.3 Where organic food purchased from most often

Having established where respondents purchased their organic food or drinks from, the respondents were then asked the range of outlets used for purchasing organic food or drink where they purchased from **most often**. Table B.2 shows the results on this measure.

Table B.2: Where organic goods purchased from most often

Base: All who buy organic food or drink nowadays

	%
Supermarket	86
Farmers market	4
Farm shops	3
Health food shop	3
Base:	**370**

Not surprisingly given the widespread use of supermarkets to purchase organic goods from a supermarket, the vast majority (86%) also claimed to buy their goods from a supermarket **most often**. The next most often used source was farmers markets (4%), followed closely by farm shops and health food shops, each mentioned by 3%.

B.2 Factors which deter from buying Scottish organic goods
All those who claimed to buy organic food or drink nowadays were asked which, if any, factors deterred them from buying Scottish organic goods. The majority of respondents (60%) did not think there were any factors which deterred them although just under a quarter (23%) gave their reason as *price/it is usually more expensive* and 14% cited *lack of availability*. Very few other reasons were given.
All those who claimed to actively look to buy Scottish organic food or drink were asked what goods they buy most often. Table B.3 shows the results on this measure.

Table B.3: Scottish organic goods bought most often
Base: All who actively buy Scottish organic food or drink

	%
Vegetables	81
Fruit	41
Eggs	37
Red meat	36
Poultry	25
Milk	20
Fish	17
Base:	**154**

Vegetables are the most widely purchased Scottish organic good, with four fifths of respondents (81%) claiming to buy them most often. Just over two fifths (41%) bought fruit, with similar numbers purchasing eggs (37%) and red meat (36%). Slightly fewer respondents, a quarter (25%) claimed to purchase poultry. A fifth of respondents (20%) bought milk and 17% bought fish. Differences are evident across different demographic groups but small base sizes make it difficult to interpret these findings meaningfully.
Superpanel results

The paragraphs that follow show Superpanel data, which is based on the 52 weeks ending 22nd May 2005.

C.1 Expenditure
Overall, expenditure for the UK organic market for the 12 month period ending May ’05 was £767,442,000, an increase of 12.1% on the previous 12 month period. In Scotland, expenditure for the 12 month period ending May ’05 however was £41,466,000, an increase of only 3.9% on the previous 12 month period. The organic market across the UK as a whole is currently therefore growing at a faster rate than in Scotland specifically.

Table C.1 shows the share of organic expenditure by outlet both in the UK as a whole and in Scotland specifically.

Table C.1: Organic expenditure share by outlet– Scotland vs UK

	UK (%)	Scotland (%)
Total Tesco	27.5	38.6
Total Sainsbury	26.3	15.6
Waitrose	18.6	0.2
Total Asda	7.7	13.7
Morrisons and Safeway	5.9	13.3
Marks & Spencer	3.3	5.2
Total Co-Op	2.2	4.2
Total Somerfield	1.4	3.1
Total independents	1.3	0.4
Discounters	0.1	0.3

Within the UK as a whole the organic retailer share is very different to the total grocery market share. Specifically there is high over trade in organic retail in Waitrose (18.6%) and a huge under trade in Asda (7.7%). Within Scotland however, other than Tesco's over trade within the organic market (38.6%), the organic retailer share is much closer to the total grocery share within Scotland.

C.2 Profile of purchasers

Table C.2 shows the organic expenditure share by demographic groups across both the UK and Scotland specifically.

Table C.2: Organic expenditure share by demographic group – Scotland vs UK

	UK (%)	Scotland (%)
ABC1	63	68
C2DE	37	32
Housewife aged under 28	5	7
Housewife aged 28-34	11	16
Housewife aged 35-44	25	22
Housewife aged 45-64	36	32
Housewife aged 65+	22	24
1 member households	23	27
2 member households	37	38
3 member households	16	20
4 member households	18	11
5+ member households	6	4
No children	70	74
Children	30	26

In both the UK as a whole and in Scotland specifically, most organic expenditure is made by those within the social classes ABC1. In Scotland, the level of expenditure amongst this group is slightly higher than in the UK as a whole (68% vs 63%).

The age group which accounts for most organic expenditure is those aged 45-64. Specifically, 36% of UK organic expenditure is made by those within this age group and 32% in Scotland.

There are a number of differences between the UK as a whole and Scotland in terms of how the household size impacts on organic purchasing behaviour. In Scotland almost a third (65%) of households with 2 or less members account for organic expenditure. In the UK, these households account for 60% of organic expenditure. Whilst almost a quarter of organic expenditure in the UK is made by those living in households with 4+ members (24%), in Scotland this level is only 15%.
Perhaps unsurprisingly given the results shown in the previous paragraph, more expenditure is made by households with no children in Scotland (74%) than in the UK as a whole (70%).

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Printed on	01/06/2005 3:58 PM

Appendix IV

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ISBN 0 7559 1321 3 (web only publication)