UNIVERSITY of EXETER

CENTRE FOR RURAL RESEARCH

A Study of Food Production, Distribution and Processing in Cornwall and the Isles of Scilly

A report prepared for Cornwall Taste of the West

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We alone are responsible for the conclusions drawn in this report.

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Section 1

Introduction

It is hard to imagine a report such as this being commissioned twenty, or even ten years, ago. Taste of the West's initiative in seeking an in-depth examination of the food sector in Cornwall, together with the interest of the Centre for Rural Research (CRR) to undertake the work, are both signs of changed circumstances in the agro-food sector. Until recently the CRR (formerly the Agricultural Economics Unit) at Exeter University has focussed its attention mainly on farmers as producers of largely undifferentiated raw commodities. Our interest as farm business economists and rural social scientists stopped, for the most part, at the farm gate. By contrast, food economists often gave scant regard to farm production and focussed instead on national and global markets. The notion of a food economy within a single county was foreign to both farm business and food economists. Intellectually this is understandable for, of course, our research has not un-covered a self-contained Cornish food economy. On the contrary, in many respects food production and processing in Cornwall is fully integrated into national and global markets. But circumstances are changing fast and the new emphasis on local and regional food economies is both a response to and a consequence of globalisation in the agro-food sector.

This research has not been easy. In contrast to farming, where the data sets are reasonably comprehensive, information on food processing and distribution is often hard to come by. We have been reliant for our understanding of the sector on its own members and stakeholders. Much of this research, therefore, has been a process of gleaning knowledge that is already 'out there' but not always readily accessible to policy makers or other parts of the food chain.

We were asked by Taste of the West to assemble data, through collection and estimation. We were asked to refrain from interpreting this data in terms of any academic interpretation or policy prognosis; a tough condition for an academic institution! We hope we have observed this request, but we also hope that the document will provide the basis for a next step - the 'lesson-learning' that should accompany any collection of data. This we anticipate will be undertaken by Taste if the West and other stakeholders in Cornwall. We believe that our findings demonstrate a lively and vibrant agro-food sector in Cornwall with considerable development potential. Farming is still facing huge difficulties in the county, as elsewhere in the south west region, but recent developments in processing and adding value offer room for some cautious optimism. Certainly we believe there to be scope for further targeted assistance and investment. Moreover, we do not consider it inappropriate to consider the food economy at this spatial level. On the contrary, we would argue that such an approach is long overdue.

Aims & overview

The overall aim of this report is to provide a portrait of the Cornish food economy from the field to the plate. The report provides a broad overview of an extremely complex industry – the modern food economy. This is based on a literature review, published data and interviews with food producing and processing businesses. Due to the complexity of the industry it has been necessary to break it down into a number of food producing and food processing sectors. These are described in some detail before bringing the various food chains together at the end of the report.

Although a great deal of attention is paid to the quantitative aspects of the food economy, the numbers and statistics do not paint the whole picture. We have also tried to give an impression of the qualitative aspects of the food economy, the aspirations of the food producers, the problems around local sourcing and some of the successes in the county.

The report opens with an overview of the food economy of Cornwall, how much the food economy is worth, in particular with relation to the role of the farm-food sector, and the number of people employed by the food industry. We underpin this with a basic outline of the Cornish food economy and the social and economic characteristics of Cornwall. The body of the report consists of two principal sections which include: the details of primary food production and food processing sector by sector, tracing the routes to market (including local, regional, national and international). In doing this we provide details of the changes in farm businesses and emerging methods of production and distribution of food products, e.g. the style of businesses and the goals of business operators. Some of these businesses dwarf the rest by the extent of their scale and economic weight. Although they are covered we have deliberately focussed on the smaller food enterprises whose activities are less well known and understood.

From this detailed consideration, the report considers the underlying structures of the Cornish food economy. Using diagrams we explore the diversity and dynamism of the food economy of Cornwall, drawing on interviews and case studies conducted as part of the research for this project. From these diagrams we move to a further analysis of the underpinning flows and forces in the Cornish food economy. We conclude with a series of recommendations as to how the local food economy could be further developed.

Methodology

The information in this report has been collected from a variety of sources including a literature review, published data and interviews with businesses. Following the literature review we contacted many of the key players in the food economy and many advisors to the food industry in the county.

From the information provided and databases supplied by Taste of the West we then interviewed more than 35 food producers and processors in the County. Most of the interviews were conducted by telephone, but some were face-to-face meetings. Those interviewed were not randomly selected but chosen because of their role in the food economy. We attempted to interview a cross section of the small producers, most of the major producers and producer groups, as well as the majority of the food processors. Not everyone approached was able or willing to take part in the research. Those who did take part provided us with new information and opinions on the Cornish food economy.

Despite the time constraints we were working under we have tried to make our data as robust as possible and have indicated data concerns where appropriate. In some areas we had to work with limited data or data not specific to Cornwall. We hope these problems will be addressed shortly as new research is published. For example, in the next six months a detailed study of the Organic producers in Cornwall will be published by the Organic Studies Centre, as will an investigation into farm businesses for the Rural Progress project sponsored by Duchy College.

Structure of the Report

The report is divided into 5 sections. The first is a general introduction to the report and into the food economy of Cornwall. The second considers primary food production - principally agriculture. In the third section we consider food processing and manufacturing within the County and the fourth section analyses the trends found in the rest of the report. The final section is a series of appendices comprising supporting data that adds background and depth to the rest of the report.

The Cornish food economy

For the purposes of this report we have defined the Cornish food economy as comprising primary producers (farmers, growers and fishermen who grow crops, raise animals or catch fish) and those who process food. Some of these will be processing products from the County but others will be taking food products from all over the world and processing them in the County. While retailers are important to producers and processors we do not consider them as a specific sector in this report.

A full picture of the food economy is beyond the scope of this study. In fully addressing the complexity of the contemporary food economy, such an analysis would have to take into account the diverse range of services provided across a wide range of businesses (e.g. those who provide the chemicals used to grow the crops, the IT specialists who keep the production lines running, through to the photographers who specialise in food). The sheer complexity of these interconnections defies speedy or concise analysis. Our restricted analysis of the food economy takes a slice through various sectors, revealing the profiles of the businesses involved and their links in the food chain. From these we make a number of general characterisations of the various sectors of the food economy. Although this technique produces a more limited picture than if we had tracked every link in the contemporary food chain, it nevertheless provides an illuminating map of the Cornish food economy.

Characteristics of the Cornish Food Economy

- The total value of the food economy has been previously estimated at being worth £800 million per annum to Cornwall[1]. Our estimates of the food economy now indicate that it is worth in excess of £1 billion per annum.

- These remain as estimates because of the complexity and diversity of food in the economy in Cornwall. The tables below indicate how we have derived these figures and the composition of the economy.

- The food processing and manufacturing sector is economically the most important sector in the Cornish food economy which our estimates show is worth at least £500 million.

- As shown in Table 1 below the sector is dominated by a small group of very large processors and manufacturers who supply the national and international market. Equally, they draw in supplies and services from across the UK although their direct and indirect contribution to the Cornish economy through sourcing, employment and services is considerable.

- All of these processors supply the local food economy in Cornwall indirectly as their products are stocked by all the major multiple retailers and many other large retail stores.

- These major processors directly employ over 2,500 people in Cornwall.

Table 1 - Major Food processors and manufacturers with operations in Cornwall 2002

Company or Group	*Turnover*
Yoplait Dairy Crest Group Davidstow plant	*£ 793.7 million* £ 140 million*
Samworth Brothers Ginsters Kensey Foods Tamar Foods	*£250+ million* £110 million* £30 million £ X million
Flagship Foods Roach Foods	£303 million £150 million#
St Merryn Meat	£319 million$

*Estimate through calculation. # figure for plants in both Devon and Cornwall.
$ St.Merryn is headquartered in Bodmin but has plants in Wales and Portugal that are included in this figure.
(Sources Dairy Crest Annual Report, Samworth Brothers Website, KPMG/Sunday Times)

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[1] A figure calculated by Prosper in 1998.

- The second most important sector to the Cornish food economy is that of agricultural production in the County, which is worth at least £192 million. (see Table 2)

- Agricultural production is highly diverse and characterised by a multitude of small enterprises with a number of medium sized enterprises in particular sectors.

- Agricultural producers directly employ over 10,000 people, many of whom are stakeholders in the businesses in which they work.

- Economically the most important industry within this sector is the Dairy industry, which is the foundation of one of the major food processors (Davidstow) and a wealth of smaller businesses.

- Although some of the businesses in this sector have international links, the majority are embedded in the Cornish and, more generally, the regional economy.

Table 2 - Monetary Value of the different agricultural sectors in Cornwall[2]

Crops[3]	*Value to Cornwall*
Other arable crops	£900,000
Potatoes	£10,100,000
Horticulture	£18,500,000
Livestock	
Beef	£31,600,000
Dairy	£92,300,000
Sheep	£10,100,000
Pigs	£5,400,000
Poultry	£5,600,000
Total from Crops	**£28,600,000**
Total from Livestock	**£145,000,000**
Total Value of Farm Produce	**£173,600,000**

(Source - Centre for Rural Research 2003 from DEFRA data)

[2] These figures are based on Farm Gate values, based on the per hectare figure calculated at UK national averages.
[3] These figures excluded cereals, which if they were sold as food for humans would be worth £18,400,000 but we believe the overwhelming majority are used as animal feed.

- The third most important sector of the Cornish Food Economy is the retail and hospitality sector. This sector is the most complex and opaque area to analyse as it includes both the permanent population of Cornwall and the visitor population.

- In 1999 over 71% of 270,000+ visitors to the County stayed in self-catering accommodation, meaning that they had to either seek food in restaurants or purchase it locally[4]. This is reflected in the average spend per week by visitors of £108 on accommodation and £100 on other services. There are approximately 485 restaurants in Cornwall.

- It has not been possible to disaggregate the food retailing figures between residents and visitors but, as the population of Cornwall doubles during high season, it must have a considerable impact on food retailing in the County. As with the rest of the UK the multiple retailers dominate food retailing in Cornwall.

Cornwall a Socio-economic profile

It is not possible to separate the Cornish food economy from the rest of the Cornish community. Much of what makes Cornwall the distinctive place that it is combines to have pronounced effects on the Cornish food economy. Only by understanding the broader landscape of the economy in Cornwall and Cornish society can a full understanding of the food economy be established. Consistently we have found that the combination of a relatively small population of permanent residents and the seasonal influx of visitors tempers the Cornish food economy. The disparity in income and opportunity between many residents and the visitor population both underpins the food economy and guides many facets of its developments. Objective 1 status is recognition of the particular social challenges that Cornwall faces but some of the more recent developments, such as the rise in property prices and the agricultural recession, also are influencing the food economy.

Population and Place

- Cornwall has the second lowest population density in the South West, with 1.4 people per hectare and is the second largest county (354,920 hectares).
- Cornwall and the Isles of Scilly have the longest coastline of any county in England (697 km) and this contributes to a distinctive culture and high quality environment.
- The socio-economic development of the County is embedded in the physical environment, with agriculture, fisheries and extractive industries having long shaped the landscape. The remoteness of Cornwall reinforces its strong sense of place and Cornish identity.

[4] Cornwall County Council

- There is no single major dominant urban centre in Cornwall and the nine main towns are spread throughout the County.
- Cornwall has a population of 492,600[5], two thirds of which live outside the 9 main towns and this dispersed, largely rural settlement pattern has been determined by past economic activities – farming, fishing and mining.
- Since the 1970s, the population has experienced considerable growth of 28% in total numbers largely from in-migration. Two thirds of the inward migrants to Cornwall have been people of working age though this masks an outward migration of younger people aged 18-30.
- Unemployment rates have fallen in the seven years to 2002 with Cornwall observing some of the highest falls in unemployment in the South West. However, the growth in the working population has been larger than the considerable growth in new jobs and this has kept unemployment figures for Cornwall (3%) at higher levels than the South West has generally (1.9%).

Employment & Skills[6]

- Cornwall has the lowest Gross Domestic Product (GDP) per capita in England at 69% of the EU average (71% of UK average) and this determines the low wages and low household incomes.
- Gross average weekly earnings for men were £362.30 in 2001 and compare to £388 in Devon, £412.10 in Dorset and £451.8 for the region as a whole. For women the average was £287.5, compared to £308 in Devon, £330.6 in Dorset and £333.5 for the region as a whole[7].
- During the same period, the number of weekly hours worked by men was higher than anywhere else in the region apart from Dorset. On average, the Cornish working week was 42.4 hours, with the regional average being 41.3. There are also indications that more overtime is worked in Cornwall than the rest of the region.
- Low wages are associated with low skilled, part-time jobs. Employment in tourism service industries, which are characteristically seasonal, account for a high proportion of all jobs.

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[5] Office of National Statistics 1999
[6] http://www.cornwall.gov.uk/Facts/index.htm
[7] Figures compiled by the South West Regional Development Agency and the South West Economy Centre, February 2003.

- Whilst skills levels in education are higher than the national average, the skills are not retained in the workforce. Cornwall is a net exporter of further and higher education students and many of the highest skilled leave for career opportunities elsewhere.

- Shortages in skills are apparent in specialist areas and recruitment can be difficult due to uncompetitive wages. However, the high quality of life offered in Cornwall does attract investment and people, particularly in those sectors that are related to Cornwall's distinctive environment and culture.

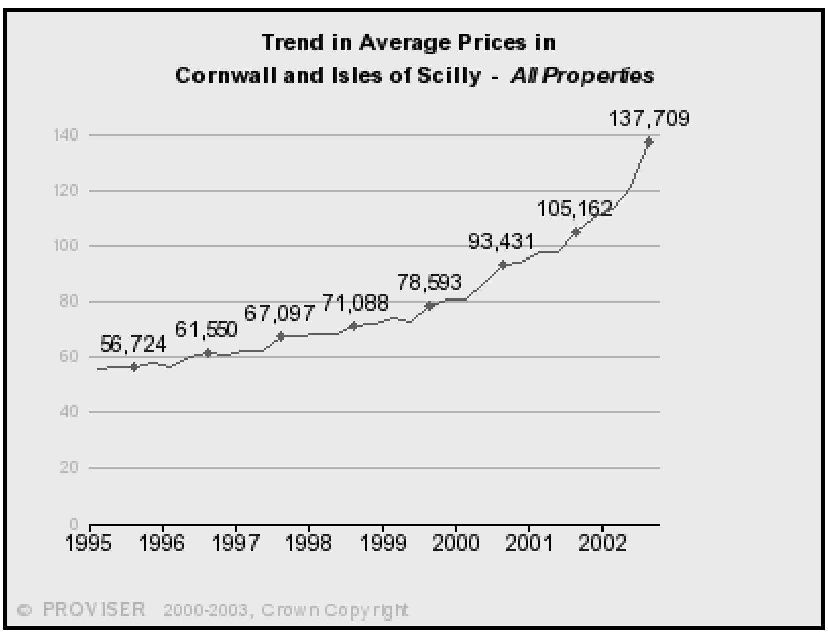
Housing

- The recent boom in property prices has had a pronounced effect on the local economy. Figures from Proviser indicate that the average house price in Cornwall in 2002 was £137,709, lower than anywhere else in the region[8].

- The rise in property prices during 2002 was 30.9%.

- The rise in house prices (see table 3 below) indicates that house price inflation is out-stripping local rises in wages and employment.

Table 3 - Trend in average property price in Cornwall (1995-2002)



[8] www.proviser.co.uk/

- Given the low wage economy property price rises are likely to reinforce contemporary patterns of out-migration by young people. They are also likely to create an important new sector in the Cornish population of in-migrants looking for a different lifestyle in Cornwall.

Industry and Business

- In the past the Cornish economy was dependent upon mining and quarrying with associated industrial and engineering activities, agriculture, fishing and tourism.

- The relative importance of employment in agriculture, forestry and fishing and the distribution and catering sectors are still higher in Cornwall than England and Wales (see Table 4 below). This reflects the traditional base of the Cornish economy, the remote and relatively under-populated nature of the peninsula and the significance of the tourism sector.

Table 4 - Industrial composition of employee jobs, 2000

Sector	**Great Britain %**	South West %	Cornwall %
Agriculture, hunting, forestry & fishing	1.3	2.2	4.6
Mining, quarrying	0.5	0.5	2.3
Manufacturing	21.5	22.4	17.0
Electricity, gas, water	0.6	0.7	0.3
Construction	7.5	7.6	12.1
Distribution, hotels, catering, repairs	21.5	23.3	27.8
Transport, storage & communication	8.7	7.4	5.2
Financial & business services	19.9	15.9	7.2
Public administration & defence	5.4	6.7	6.0
Education, social work & health service	8.3	8.9	12.0
Other services	4.8	4.4	5.5

(Source – South West Regional Development Agency and South West Economy Centre 2003)

- Employment in the food and drink industry rose significantly in the 1990s by 54% compared to a 6% average for Great Britain. In support of this, the number of business units in Food and Drink rose by 156%, compared to 69% in Great Britain as a whole during the same period.

- These figures reflect the growing tourism base of the Cornish economy. Figures for 2000 – 2003 are not available but it is expected that, with the development of significant visitor attractions, such as the Eden Project and the National Maritime Museum, the food and drink sector will continue to expand.

- In the economy more generally, businesses have diversified into manufacturing and service industries such as the chemical and earth sciences, environmental technology, media and design, and the food and maritime business sectors.

- The gross value added per person employed in manufacturing in Cornwall is only 73% of the UK average (1997).

- Cornwall and the Isles of Scilly have approximately 19,000 businesses which amount to 21% more businesses per head of population than the UK average.

- Businesses are typically very small with over half having a turnover of less than £100,000 and 91% with less than 10 employees. At 0.2%, Cornwall has the lowest rate of employment by companies employing more than 200+ people.

- A high proportion of the population are self-employed (17.5% compared to 13.4% in the UK).

Transport/Logistics

- As the westernmost part of the South West peninsula the geographical position of Cornwall is a constraint to many sectors. Transport is a key issue with both costs and lack of access reducing the competitiveness of many local businesses.

- The rural location of many businesses means road transport is a necessity, and the port and harbour facilities are inadequate to service modern transport and distribution requirements.

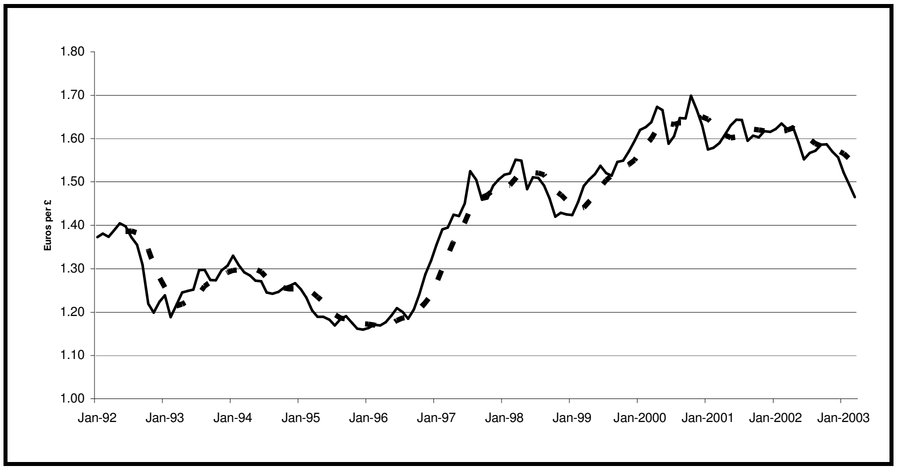
The Agricultural Economy

The problems of the agricultural industry – severe recession and rapid changes – have been exacerbated in recent years, and thus more obvious to the general public, due to the BSE crisis and the Foot and Mouth outbreak. This is important for the food economy of the county. Most of the basic products of agriculture form the basis of food processing and retailing and any changes in the price of production or the structure of the industry have important ramifications for food production as a whole. Farmers may respond to problems by changing significantly the characteristics and trajectories of their businesses. A few basics about the state of the agricultural economy and its prospects in the next few years make the descriptions of the various sectors and businesses all the more transparent. We have prepared a background appendix of graphs and explanations of the more general trends that have a bearing on the report but that would weigh down the main thrust of the report (see appendix 3).

- BSE has profoundly restricted the export markets for British beef products since 1996. Any changes in either European regulations or markets could have profound consequences.

- After the impact of animal diseases, the exchange rate with the Euro has been the greatest single factor in the difficulties facing UK agriculture over recent years (see Figure 1).

Figure 1 - Sterling exchange rate vs. the Euro



(Source - Centre for Rural Research 2003)

- The strength of the pound against the Euro has led to a drop in the level of self-sufficiency in indigenous foods from 83.4% to 74.9%.

- This has meant that by 2002 the UK was a net importer in every agricultural sector with the exception of milk / milk products. Imports have been cheaper than home produced food.

- A drop in the value of the pound against the Euro or entry into the Euro currency would see immediate benefits for UK agriculture.

- Although we do not make any forecasts about the future economy, many of the trends are clear. In considering these trends it is important to consider that the production of basic foodstuffs in Cornwall and the UK over the next 5 years will depend on the following:

  a. Demand – in the UK and Europe, to an extent dependent on general economic conditions.

  b. Trade within the EU, the opening of continental markets through changes in regulations or the pound falling against the Euro.

  c. The resolution of the world trade organisation (WTO) governing global trade.

  d. The impact of the mid-term review of the Common Agricultural Policy, the principal mechanism for supporting and regulating agricultural production in the European Union.

e. World market prices – especially world grain and vegetable protein prices that can have a knock-on effect on livestock feed costs. These are affected by the subsidies and policies of other nations.

- The prospect for the Cornish food economy varies between sectors and businesses but all of them will be influenced by these factors, changes in the agricultural economy (see appendix 3) and the trends in consumer behaviour described in the Cornwall Taste of the West Review of the UK Food market.

Section 2

Primary Food Production

Dairy Foods

Dairying is the most important form of primary food production in the County and produces some of the foods most emblematic of Cornwall. Few visitors will leave Cornwall and the Isles of Scilly without a clotted cream tea or an ice-cream. Not many will pause to consider the complexity of the industry or its wider importance in the economy of Cornwall. The sector as a whole exhibits a mixture of experiences with some farm businesses growing and expanding to take a role in the national food economy, others concentrating on processing their own select range of products, others quitting dairy production altogether. As our findings make clear, this is a highly dynamic area of food production.

Dairy Production in Cornwall

Structure of the Sector

- Milk producers in Cornwall are following the rest of the UK in increasing herd size at the expense of the actual number of registered producers. Over the three years to September 2002 registered dairy holdings have declined at an accelerating rate by 12% to 883 holdings and this trend shows no immediate sign of slackening.

- As demonstrated in Table 5, in comparison to the rest of England, Cornwall has twice the density of dairy cows than the national average. This is based on historic factors, climatic advantage and the presence of processing infrastructure.

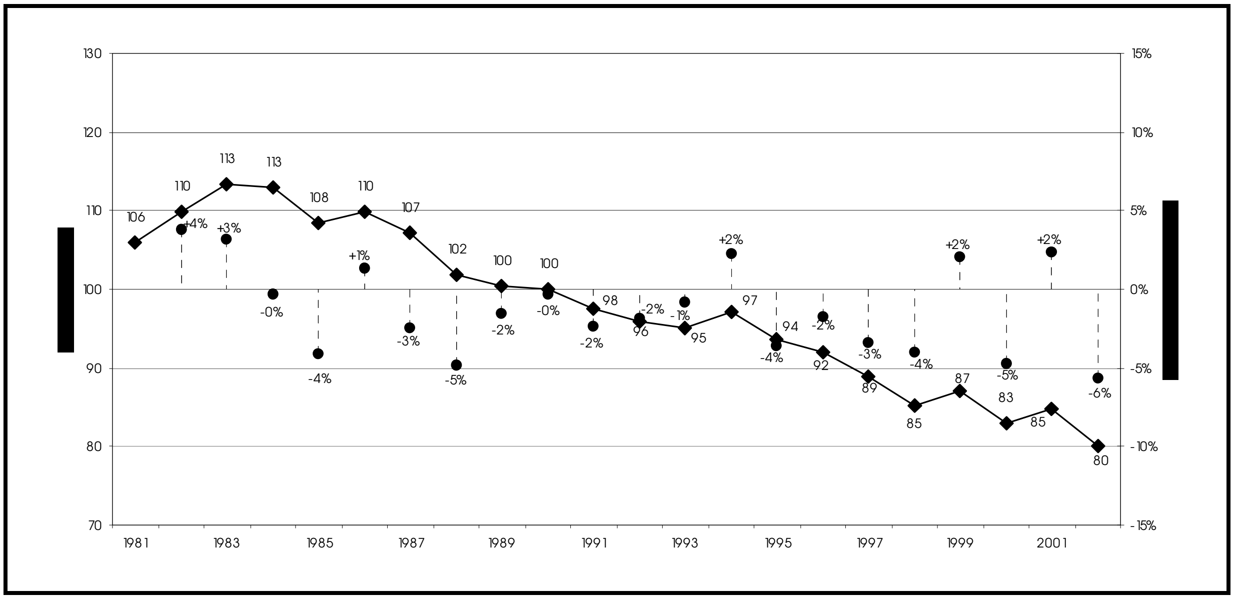
Table 5 - Number of Dairy cows in Cornwall

Dairy females	No in England	No in Cornwall	% of England[1]	Ratio[2]
Dairy cows	1,490,226	87,513	5.9%	1.95
Heifers in Calf Dairy	333,561	18,605	5.6%	1.85
Female for dairy herd replacement	306,241	17,241	5.6%	1.87

[1]This figure shows the Cornish herd as a percentage of the English herd.
[2]This figure measures the level of concentration above the national average in the county. 1 is the English average.
(Source - Centre for Rural Research 2003 from DEFRA June Census data 2002)

- The total size of the Cornish dairy herd is in a decline in terms of the actual number of animals, with a 6% fall in animals between 1998-2002. Figure 2 demonstrates that this is part of a longer-term pattern in the decline in the number of animals over the past 20 years due, in part, to the increase in the volume of production per animal.

Figure 2 - Dairy Herd, Cornwall, 1981 to 2002



(Source – Centre for Rural Research 2003 from DEFRA data)

- It is not possible to extrapolate figures for Cornwall but the average dairy herd size in the South-West increased by 6.6% to 97 cows in 2001 compared to the England and Wales average of 90 cows – an increase of 5.9%.

- There is considerable evidence of a pattern of concentration appearing in the dairy sector (see table 6 below) of fewer but larger farms. This indicates an overall pattern of specialisation, as farm businesses seek economies of scale.

Table 6 - Analysis of the Dairy sector in Cornwall (2000 – 2003)

Year	2000	2001	2002
Registered Dairy Production holdings [as at Sept]	1004	950	883
Dairy cow numbers - '000 [as at June]	85.5	87.5	82.5
Average Dairy herd size [for the South West]	91	97	
Average Dairy herd size [for England and Wales]	85	90	

- Assuming that gross milk quota held in Cornwall, including all leasing movements, (see Table 7 below) is equal to the volume of milk produced, there has been a steady increase over the last 3 years. This factor indicates that not only has the overall volume of milk produced in Cornwall risen by 2.8% over the 3 years to around 521 million litres but the yield per cow is also increasing.

Table 7 - Milk Quotas in Cornwall (2000 – 2003)

Milk Quotas	2000/1	2001/2	2002/3
Net wholesale and direct sale milk quota [m litres]	495.1	500.8	507.8*
Number of Quota holders	1190	1115	1047*
Net leasing movement of milk quota [m litres]	plus 11.1	Plus 17.7	Plus 12.8*
Gross quota held	506.2	518.5	520.6*

* Provisional figures

- The base quota at 507.8 million litres pa for 2002/3 before leasing adjustments is also showing a steady uplift and has increased by 1.1% and 1.4% respectively for the last 2 quota years. Net quota leasing has varied and reduced in 2002/3 perhaps because the National milk quota was unlikely to be exceeded and producers took the risk not to lease.

- The comparative advantage of the longer grass growing season and improving milk prices now being paid by most raw milk buyers is likely to lead to a continuing increase in milk production which will be taken up by the additional added value production capacity expected over the next 5 years.

Dairy goat production

- Although of far less economic significance than the cattle herd, Cornwall has a higher than average concentration of dairy goats, representing nearly 8% of the national herd which contribute considerable supplies of goat's milk to local processors (see table 8 below).

Table 8 - Number of Dairy Goats in Cornwall

Goats	No. in England	No. in Cornwall	% of England	Ratio
Dairy Goats	20,972	1,630	7.8%	2.58
Non dairy Goats	11,260	517	4.6%	1.52
Other Goats	26,560	1,488	5.6%	1.86
Total Goats	**58,792**	**3,635**	**6.2%**	**2.05**

(Source - Centre for Rural Research 2003 from DEFRA June Census 2002)

Routes to market

- The two major purchasing companies, Dairy Crest and Milk Link, account for around 95% of all milk produced and there would appear to be little competition for supplies (see Table 9 below).

Table 9 - Milk Purchasing Companies and estimated milk purchases

Milk Purchasing Companies in Cornwall	Current **estimated** percentage volume of milk collected p.a.
Milk Link	59%
Dairy Crest	36%
Peninsula	4%
OMSCo	1%
Total volume	100%

- Over the past 15 years, the processing capacity has changed radically with the closure of 3 major creameries: Unigate, St Erth, making mainly butter and skimmed milk powder and some short life dairy products; Dairy Crest, Camborne, making butter and milk powders; and Dairy Crest, Lostwithiel, making butter and milk powders. This is indicative of a shift within the Cornish dairy industry towards marketing leading value added products such as cheese.

- The average milk price paid by all buyers in Cornwall improved in 2001/2 over 2000/1 but seems to have fallen in 2002/3. (Prices are expressed in pence per litre).

- Given the oligopolistic position of milk purchasing in the County, the performance and decisions of the two major purchasing companies is of central importance.

Table 10 - Average Standard price of milk per litre (2000 – 2003)

Average standard litre price pa			
	2000/1	**2001/2**	**2002/3**
Cornwall	16.98	19.34	17.22
England and Wales	17.29	19.86	17.35
Annual difference	-0.31	-0.52	-0.13

- The prices paid for milk vary greatly and the average standard price per litre for the two years April/March 2001/2 and 2002/3 is as shown in Table 11. Such fluctuations make business planning difficult.

Table 11 - Milk Company buying prices in Cornwall (2001 – 2003)

Company	April/March 2001/2	April/March 2002/3
Dairy Crest, Davidstow	19.89 ppl†	18.08 ppl
Peninsula	17.94 ppl	16.81 ppl
Milk Link	18.79 ppl	16.35 ppl*

(Source: Stephen Bradley Milk Price League Table 2003)
† Pence per litre
*Excludes capital retentions

- OMSCo (The Organic Milk Selling Co-operative) the Organic milk purchasing company does have a small operation in Cornwall but it is not possible to accurately determine its average price for Cornwall.

- The price and supply of Organic milk is potentially volatile, with supply now greater than domestic demand, leading to a drop in price. Some industry sources anticipate a drop in the supply of Organic milk, as Organic standards become more demanding and each farmer's subsidy support ends.

Milk Brought into Cornwall

- The two principal buyers (Dairy Crest and Peninsula) have differing market needs because Milk Link does not have its own processing capacity in Cornwall. Therefore, even though there may be sufficient milk produced in Cornwall to meet the total current processing capacity, there is nevertheless a certain volume of milk sold outside Cornwall to alternative buyers and processors.

- The demand for milk at Dairy Crest, Davidstow, has to be satisfied by volumes coming mainly from Devon but also from other sources at certain periods of the year. It can be assumed that the milk from Devon will be purchased on a direct ex-farm contract and therefore the average price will be akin to that paid to ex-farm contract milk producers in Cornwall.

- As processing capacity in Cornwall increases to meet the additional demand for added value products so it may be necessary to either use more milk locally or bring in more milk as well as encouraging Cornish milk producers to continue to increase production as shown over the past three years.

Estimated milk volume taken out of Cornwall

- The location, varying production, demand, and alternative market opportunities outside Cornwall mean that milk is sold to other processors. It is not possible to estimate the value of all sales as the prices are confidential between the buyer and seller.

- Some by-products, skimmed milk and bulk cream are sold and processed outside Cornwall due to the lack of demand and processing capacity.

Structure of the Milk Processing Industry in Cornwall

Dairy Crest, Davidstow.

- Probably the biggest and most modern cheese creamery in Europe when the new build is completed with a designed whole milk processing capacity of 500 million litres a year.

- If all the milk produced was sold into processing locally it would be worth £93.0m pa, but some milk is sold on the open market at varying prices.

- Davidstow is renowned for its quality cheddar cheese and all whole milk is processed into this product. At full capacity it could make around 50,000 tonnes of cheese per annum and, assuming a 1/3 – 2/3 split between mild cheddar and premium Davidstow and Cathedral City brands, the value of the cheese sold at current prices would be in the order of £139m.

- Cathedral City is the most popular pre-packed Cheddar cheese with 27% market share in 2001.

- By-products – whey powder, whey cream and whey butter would add a further £1m and £0.5m respectively giving a potential total cash flow of over £140m.

- All sales are through Dairy Crest sales offices and not carried out locally.

A.E.Rodda and Sons

- The best-known brand for Cornish Clotted Cream and the largest manufacturer of the registered product with probably over 85% of the total market supply.

- The company has an overall turnover of approximately £10 million per annum.

- Milk processing is in the order of 25 million litres pa but as the ex-farm Cornish milk is purchased through a third party it is not possible to determine the ex-farm value. If a notional milk price of 20ppl delivered to the dairy is used then the milk value is around £1m.

- Assuming a milk to cream conversion rate of 90%, the volume of the by-product skimmed milk is around 21ml pa, leaving 4ml pa of cream in all formats including the recently launched Crème Fraîche.

- Skimmed milk is sold out of Cornwall to other processors at the going rate.

- Trade is through a plethora of outlets from bulk clotted cream sales to other food manufacturers, direct retail sales including a postal service, major retailers and a van sales operation. Van sales include the local delivery of a range of dairy products and other foodstuffs required by small retailers and catering establishments.

Newlands Farm

- A liquid milk processing company operating throughout the West Country with a processing capacity estimated to be around 20ml pa. Raw milk is purchased through a third party.

- The products offered are mainly the full range of liquid milks in poly-bottles and various types of cream sold through semi-retail and retail establishments including the catering trade.

Lynher Farms and Dairies – Netherton and Pengreep Farms

- Two processing units making a comprehensive range of semi-hard and soft cheeses, the most famous being "Cornish Yarg" available in most retail outlets in the UK. The range of cheeses has won many national and international awards for quality and innovation.

- Raw milk for processing is purchased through a third party or produced on farm. Processing capacity of the two units is in the order of 6 ml pa.

Cornish Country Larder Ltd

- Premises taken over in 1997, since then CCL has progressed into a major manufacturer of mould ripened cheeses – Brie and Camembert types – and are now the second largest producer in the UK.

- Have recently won several awards for quality and novel cheeses including the World 2002 Best New Cheese Award for the soft smoked goat's cheese Tesyn[9].

- The company also processes and sells a range of goat's milk, cream and butter as well as semi hard and hard goats cheese, the most notable being "Village Green". Cow and goat's milk products are available in most major retailers. Both types of milk are purchased through third parties.

- Processing capacity in Cornwall is in the order of 8 million litres pa.

J.Bradley

- A liquid milk-processing dairy using mainly own milk production. The products offered are full range of liquid milk products in poly bottles as well as semi retail and wholesale volumes of cream. Sales are mainly in Cornwall.

Trewithen Cornish Farm Dairy

- A liquid and short life dairy products processing dairy purchasing milk direct from local farms. A comprehensive list of products is available offering a full range of milks in poly bottles, Cornish clotted cream (bulk and in retail pots), a full range of other fresh creams for retail and processing, butter in retail packs, buttermilk for processing and small volumes of crème fraîche and yogurt.

- Sales are mainly to local retailers, caterers and the food processing industry. Current processing capacity is in the order of 2million litres pa.

[9] Smoked by Cornish Cuisine

Cornish Cheese Company

- Started making blue cheese but now makes a range of soft, blue and mould-ripened cheeses from milk mainly produced on the farm.
- Notional capacity up to 1 million litres pa.

Menallack Farmhouse

- Produces a range of hard semi-hard and soft cheeses using a range of differing milks – buffaloes, goats, ewes and cows.
- Cheeses are also bought in from other local manufacturers as Menallack offer a wholesaling facility.
- Notional processing capacity up to 1 million litres pa.

Toppenrose Dairy

- A new farm cheese-making unit producing mould ripened cheeses in various forms but the principle product is Toppenrose Gold – a soft cheese with added Jersey Cream.
- Milk is produced on the farm with a notional processing capacity up to one million litres pa.

Whalesborough Farm Foods

- Produces a range of fresh, semi-hard and hard cheeses sold mainly in Cornwall but also to major retailers.
- Milk is produced on the farm with a notional processing capacity up to one million litres pa.

Gwavas Jersey Farm

- A developing company making a range of liquid milks in glass bottles and in poly bottles, Cornish clotted cream, other creams in wholesale and retail containers and a range of yogurts.
- Offers a wholesaling facility for local cheeses and carries out a van sales operation for retailers and catering establishments mainly in West Cornwall. Has a local retail round.
- Jersey milk is sourced from the farm and non Channel Islands milk from a third party. Notional processing capacity is up to 1million litres pa.

Jersey Cow Farm Foods

- A small Organic jersey milk dairy producing ice-cream and all types of cream using only milk from the herd. A café outlet in Bude and retail sales to high quality outlets across the UK.

Ice-cream processing in Cornwall

- Ice-cream is a rapidly expanding processed foods sector as quality ice creams take a larger share of the market, whilst ice-cream is still a quintessential part of the holiday experience.

- The estimated volume of milk used in ice-cream production is 5 million litres per annum, which would equate to approximately 10 million litres of ice-cream a year.

- The value of ice-cream is highly dependent not only its quality but also the sales location.

- It is anticipated that ice-cream production in Cornwall will double in the next 3 years, with growth concentrated at the high-value product end of the market.

Ice-cream Producers (see also Confectionery)

Richmond Frozen Confectionery Ltd

- The largest producer of ice-cream in the county, primarily own brands for major supermarkets. Almost all of its raw materials are sourced outside of the County and most of its sales are out of the County as well.

Kelly of Bodmin Ltd

- The largest producer focussed on the Cornish market with branded products sold in local shops and a considerable van sales force. As the seasonal profile of tourism is changing the business is becoming less seasonal. Uses milk and cream from processors in the County.

Callestick Farm Cornish Dairy Ice Cream Ltd

- Uses milk produced on own farms with some bought in cream. Like most other producers in the sector they are unable to source fruit locally. Has a van sales force and a presence at the Eden project.

Roskilly Ice-cream

- Produce ice-cream from their own organic herd of jersey cows. Its ice-cream is sold through parlours and franchised outlets, with some local deliveries to retail outlets.

Disposition to local sourcing

- The milk processing industry has a distinctive role in the food economy of the County as it mostly processes milk produced in the County and has a close relationship with the producers in the County. As such, it is an example of a successful processing industry built on Cornish produced food.

- Although the milk may be relatively homogenous, once processed many of the resulting products are either market leaders or award winners or both, representing a success for Cornish produce and value added in the County

- Several of the products have a brand that is greater than, or distinct from, their Cornish identity but all prominently display their Cornish origins.

- It appears that the majority of ice-cream producers source their dairy products from inside the County.

- The more complex processed milk products, in particular ice-cream are dependent on some supplies from outside of the County, such as sugar and fruit.

- Ice-cream producers are prepared to buy local fruit, but only if it is available at a consistent quality and in suitable quantities. Purchasing of local fruits appears to be based on opportunistic buying.

- There appear to be some difficulties in balancing local sourcing with local marketing. Some sales are targeted out of the county because the market for the premium products being produced within the County is so small. Price appears to be more important than quality or local provenance in the local market.

Routes to market

- The routes to the market place are as diverse as the businesses within the sector, from national market place leaders to small craft producers selling to local residents and visitors.

- A range of Cornish cheeses – Cathedral City, Cornish Yarg, Cornish Country Larder's Brie and Camembert are all available through major retailers through the UK.

- A range of small dairies is now producing specialist cheeses which represent a small but important part of the national sales of Cheese. At present these specialist cheeses represent the areas of growth in national Cheese sales.

- Currently many of these specialist cheeses are only sold within Cornwall, many to visitors who may represent potential future customers after their visit ends.

Styles of food businesses

- The styles of businesses are as distinct as the products being produced, ranging from very large multi-product public companies such as Dairy Crest to family owned and run businesses processing milk produced on the family's farm, such as Roskillys.

- All the milk processing companies interviewed displayed a growth-orientated approach to their businesses; none had adopted the life-style business model that is important in other sectors.

- There is a distinct divergence between those businesses seeking to supply the multiple retailers with a standard product, whether branded or not, and those seeking to supply a high quality, niche product.

- The first group tended to be larger and more economically important, but the focus of their sales was outside the county, which was often matched by the business being controlled outside the county.

- The niche, high quality producers were mostly smaller trying to balance their sales between Cornwall, with its high degree of seasonality, and the multiple retailers, with their larger market but propensity to dictate the terms of trade to producers.

Fish

Background

- The fleet fishing out of the ports of Cornwall and the Isles of Scilly is the most economically important in the Southwest region. In turn, Cornwall is more reliant on the fishing industry than any other county in the region.

- The most important port in Cornwall is Newlyn, which has a concentration of the larger trawlers in the fleet, the highest number of jobs and processing facilities. The small ports of Looe, Mevagissey, Padstow and St Ives also have a significant number of fishing vessels working from them (see table 12).

- During 2001, 17,883 thousand tonnes of fish were landed in Cornwall from a wide diversity of species and caught by a wide variety of means. Although economically the most important form of fishing is beam trawling, Cornwall also has boats specialising in netting, potting and hand-line fishing.

- Newlyn is the port with the highest proportion of fish landings in Cornwall – over 64% of the total catch, with Looe and Falmouth coming second, each with 8% of the catch and Padstow with 7%.

- In 2001 Cornwall had 599 registered fishing vessels, although not all were active. Over 70% of these vessels were less than 10 metres, with the remainder being over 10 metres.

Table 12 - Fishing ports, jobs and vessels in Cornwall

Port	No of Jobs	No of Vessels	
		Below10m	10m+
Newlyn	438	72	72
Looe	90		18
Newquay			16
Hayle			13
Padstow	59		13
Mevagissey	73	68	
St.Ives	58	42	

(Source - Report to Pesca by Ekos and Nautilus consultancies)

Structure of the Industry

- The industry in Cornwall is split between a few very large operators and a larger number of small operators. The largest operator out of Newlyn owns over 35 vessels but the majority of vessels are operated by their owners.

- Our interview evidence points to considerable co-operation between smaller owner/operators and the large businesses, with forms of 'share fishing' being used to secure incomes and position in the market.

Routes to market & distribution channels

- There appears to be a close integration between basic fish processing, the distribution of fish and some of the larger companies involved in landing the fish. This degree of integration is peculiar to the fishing industry within the Cornish food economy.

- EKOS and Nautilus consultants report that unlike many of the other sectors of the food economy, merchanting plays an important role in the fishing industry. Those involved in the merchanting of fish effectively act as commodity traders in fish, generating added value for themselves, but also reducing the risk for those catching the fish. It would appear that merchanting activity amounts to around £10 million a year.

- Merchanting remains an opaque activity as regular survey data is not collected and the nature of the business means that merchants are unwilling to share information as this may prejudice their business activities.

- From our interviews there is evidence that large fish producers are, to a degree, involved in the merchanting of fish as well as the basic processing of the catch. The complexities of these operations defy simple analysis.

- Ekos and Nautilus report that contact with merchants indicates that 51% of the catch is exported, with 30% processed in the South West and the rest sold outside the region. Our interviews indicate that the largest companies landing fish are exporting over 80% of their catch directly.

- The main markets for fish caught in Cornwall are in France, Spain, Italy and Portugal, with the UK national market playing a smaller role and the Cornish market representing an even smaller share.

- Fish processing is little understood as a sector with low returns to surveys and processors tending to be very small, relatively localised businesses, which respond to the business conditions of their locality. Most process fish directly from landings, conducting primary processing on the high value catches of fish or shellfish.

- As fishing represents the most international of all the food industries in Cornwall, distribution is an important part of the industry, with ferries to the continent playing a major role. These operations are generally tightly integrated with the merchanting and processing nexus.

Smokehouses

- The smokehouses in the County, which adopt a higher profile than the fish processing businesses, are very different. To date the smokehouses appear to be reliant on farmed fish, principally trout farms and Scottish salmon.

- Those interviewed as part of our research were not concerned to source locally, as most of the raw material could not be found locally.

- They were involved in direct marketing to major urban centres through mail order, trade fairs and the Internet. The principal distribution mechanism used was sales representatives in London.

- They reported a limited interest in the Cornish catering industry for their product mainly due to the premium price.

- The most important barrier to local expansion was the lack of availability of labour to meet with their requirements.

- The businesses interviewed could be described as being highly mobile as they sourced outside the area. Their links to the local food economy were minimal and they were reliant on the area only for labour. They took a highly expansionist attitude towards their business and were optimistic about their prospects.

Barriers to growth & disposition to local sourcing

- The fishing industry remains reliant on catching wild fish rather than farming or cultivation. This means the supply of fish and shell-fish is of paramount importance and questions of maritime conservation and management are under EU control.

- It is difficult to describe fish as a genuinely local product, although shellfish are certainly more localised.

- The role and potential of inland aquaculture in Cornwall remains unexplored but might represent an important avenue for new businesses.

- There appears to be a very limited local market for fish in general and premium fish products in particular. The creation of a larger local market for fish away from the traditional British focus on white fish would help generate a local market.

- It is important not to underestimate the importance of the fishing industry in creating the highly distinctive coastal towns and villages that provide an important element of the distinctiveness of the County. Although this is a diffuse 'commodity' it is one that the tourist trade draws heavily on and is an indirect benefit of the industry.

Horticulture

Context

- The geography and climate of Cornwall gives it a distinct advantage in horticultural production, providing an earlier and longer growing season than many areas in the UK.

- With the growth in cheap airfreight, Cornish horticultural products are increasingly competing in a global market place.

- The value of the highly diverse and active horticultural sector has been estimated at £70 million in 2000 to a more conservative estimate of £53-55 million in 2002.

- Under Objective 5b the sector benefited from £9million of investment, which led to considerable improvement in the technical aspects of production.

- Cornwall produces 30% of the UK's daffodils and bulbs and accounts for about 10% of global production of these products. Although those products and nursery plants are not foods and not part of this study, they condition and influence horticulture in the County and the Isles.

Production

Potatoes

- Cornwall is famous for its early potatoes but it is also a significant producer of later potato varieties.

- UK production of potatoes is static, although the effects of fluctuations in climate can greatly affect the quality of the crop (see appendix 3 for more details)

- As can be seen in Table 13, over 11% of England's early potatoes are grown in Cornwall, nearly four times the level of production that might otherwise be expected.

Table 13 - Potatoes and Cash roots, English comparison and ratio

Cash roots	Ha in England	Ha in Cornwall	% of England	Ratio
Potatoes early	11,290	1,261	11.2%	3.71
Potatoes main	114,693	1,970	1.7%	0.57
Sugarbeet[10]	177,239			
Total cash roots	**303,229**		**1.1%**	**0.35**

(Source – Centre for Rural Research 2003 from DEFRA June Census data)

- The early and salad potatoes are the most valuable variety of the crop grown in Cornwall.

- Cornwall is also a significant producer of other potato varieties (see table 14), with 364 ha. of main crop potatoes grown for retail sale nationally and 961 ha. grown on contract for crisp snack production.

Table 14 - Cornish potato supply and use

	Area (ha)	Yield (t/ha)	Tonnes	£/ tonne	Value (£m)
Earlies	486	14.8	7,200	300	2.2
Salads	627	22.2	13,900	280	3.9
Crispers	961	29.6	28,500	105	3.0
Main crop	364	37.1	13,500	75	1.0
All potatoes	2438	25.9	63,100	159	10.1
Cornish consumption*			54,447		3.9
Cornish production as % of UK (volume)				**1.0%**	
Cornish production as % of UK (value)				**2.2%**	

Source (crop areas and values): Cornish Horticultural Enterprises 2003[11]

*The value of Cornish consumption has been estimated on the UK potato prices.

- Of the varieties of potatoes grown in Cornwall, the more expensive crops are exported while the main potatoes remain within the locality.

- The seasonality of the early crop in particular would make it difficult to market locally in its entirety.

[10] After a request from DEFRA, our original figures for Sugarbeet production in Cornwall have been removed due to rules of confidentiality.
[11] Our thanks to Roger Whilding at Cornish Horticultural Enterprises for these figures. The interpretation of them is our own.

- Value added to potatoes through packing and transport is estimated at £1 million.

- The 'Cornish King' brand is well established in potato production.

Vegetables

- Overall vegetable production has declined in the UK in the last 20 years despite fairly stable prices (see appendix 3 for discussion). Detailed historic data is not available for the County against which to make comparisons.

- Vegetable production in Cornwall tends not to be under glass, with field crops such as cauliflowers, greens and summer brassicae being important and swede being used extensively in the production of savoury pastries.

Table 15 - Cornish vegetable supply and value of consumption, 2002

	Area (ha)	Value (£m)
Cauliflower	2209	7.4
Spring Greens (spring cabbage)	1104	4.4
Other vegetables (inc. glasshouse)	732	5.0
Total vegetables	4045	16.9
Value of Cornish consumption**		8.1
Cornish production as % of UK (Value)		1.8%

(Source (areas and values for Cornwall): Cornish Horticultural Enterprises)

**UK grown produce only, based on UK prices

- Currently 2000 ha. are planted with winter cauliflower, 900 ha with spring greens and 300 ha. with other brassicae.

- According to figures from Cornish Horticultural Enterprises the amount of land dedicated to vegetable production is stable and set to grow.

- DEFRA figures underestimate the amount of vegetable production in Cornwall as the same fields can be used for more than one crop in a year. The DEFRA census records only one of those crops. Local knowledge and expertise from Cornish Horticultural Enterprises provides a more reliable picture of the state of the industry in Cornwall.

Fruit production

- The climatic advantage of Cornwall might suggest that fruit production would be an obvious and well establish industry. Yet the figures from the June agricultural census reveal Cornwall to have very low levels of fruit production.

Table 16 - Fruit Production in Cornwall with English comparison and ratio

Fruit	Ha. in England	Ha in Cornwall	% of England	Ratio
Commercial orchards	22,441	29	0.1%	0.04
Non-commercial orchards	3,557	114	3.2%	1.06
Strawberries	3,071	28	0.9%	0.30
Raspberries	841	14	1.7%	0.56
Blackcurrants	2,163	9	0.4%	0.13
Gooseberries	212	4	1.9%	0.64
Blackberries	101	1	0.6%	0.20
Wine grapes	723	11	1.5%	0.50
Other small fruit	298	3	1.0%	0.32
Total Fruit	**33,407**	**212**	**0.6%**	**0.21**

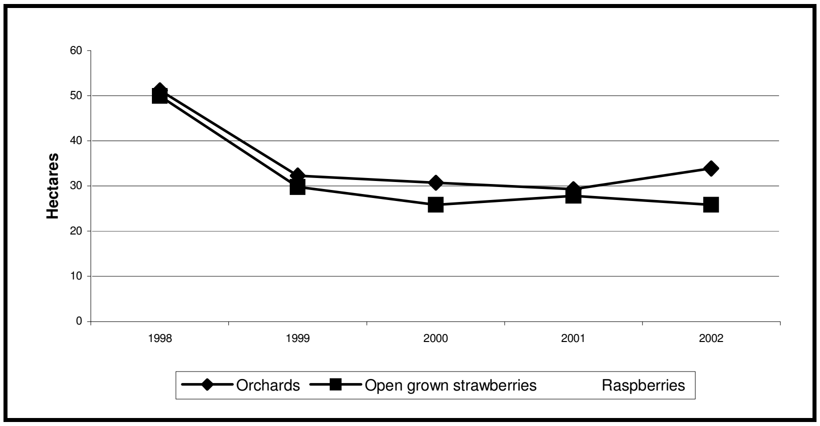
(Source – Centre for Rural Research 2003 from DEFRA June Census data 2002)

- These low levels of fruit production, even in indigenous fruit production, reflect UK trends as a whole (see appendix 3 and A Review of UK Food Market).

- Cornwall is poorly suited to tree fruit production, particularly apples, which are damaged by the winds coming off the sea. Therefore, the County is a net importer of apple juice and apples.

- Against national averages berry production appears to be low but the concentration of berry production is economically significant to the County (see table 16 above). Current levels of production appear to have stabilised.

Figure 3 - Fruit production in Cornwall



(Source – Centre for Rural Research 2003 from DEFRA data)

- The historic trend in Cornwall has differed from the UK patterns only because the County's commercial orchards had already reached current levels by the early 1980s. Non-commercial orchards may remain a considerable unused opportunity.

- However, the area of soft fruit production has roughly halved over the same time period. In its present state about 15 larger producers dominate the growing of soft fruit in the county. It is suggested that at least one of these is planning a significant expansion.

Table 17 - Cornwall fruit supply and use 2002

	Tonnes[1]
Total production	800
Total domestic uses (indigenous types only)	9,000
Surplus / deficit	-8,200
	£m
Value of production	1.6
Value of surplus / deficit	-7.2
Cornish production as % of UK production (volume)	0.2%
Cornish production as % of UK production (value)	0.6%
UK production as % of UK domestic use	28%
Cornish production as % of Cornish domestic use (volume)	9%
Cornish production as % of Cornish domestic use (value)	18%

[1]All these figures are estimates from DEFRA data.
(Source – Centre for Rural Research 2003 from DEFRA data)

- In terms of volume Cornwall appears to be very much a net importer of indigenous type fruit, its estimated production equating to only 9% of estimated consumption compared to 28% for the UK as a whole (see table 17 above).

- The picture is better in terms of value as Cornwall is better represented in the higher value soft fruit.

Table 18 - Cornish fruit area and value by fruit type, 2002[1]

	% of fruit area in Cornwall	% of total value of Cornish fruit	Cornish area as % of UK area
Orchard fruit	37%	7%	0.1%
Strawberries	28%	51%	0.8%
Raspberries	17%	23%	1.0%
Blackcurrants	7%	2%	0.3%
Other fruit	10%	8%	1.1%
Glasshouse*	1%	9%	1.1%

[1]All the figures are estimates calculated from DEFRA data.
*Likely to be mainly strawberries
(Source – Centre for Rural Research 2003 from DEFRA data)

- The only area of growth appears to be fruit grown in glasshouses, which has increased markedly, and although the total area is still very small it accounts for over 6% of the value of UK production (see table 18 above).

- There appears to be little evidence of close co-ordination between Cornish fruit production and the production of value-added products such as ice-cream or preserves (see Confectionery and preserves).

- Grape production does not match the capacity of the County to produce wine, with the larger producers of wine in the County buying in English grapes.

Processing & Packing

- In total, 8 companies were interviewed from the large grower/packer/processor sector of horticulture. These ranged from producer co-operatives who jointly owned a packhouse through to a major processor of cut and peeled vegetables.

- There was a sharp distinction between those packing vegetables for the retail market and those processing vegetables.

Vegetable Packers

Routes to the market

- All of these businesses were heavily engaged in supplying the multiple retailers either through dedicated contracts to one particular group or through supplying a wholesaler who would then supply the multiple retailers.

- Less than 5% of their business was conducted in the County, and this consisted largely of produce rejected or returned by the multiple retailers.

- The close links between the major vegetable growers to the wholesalers (usually in Lincolnshire) mean that Cornish producers are benefiting from the multiple retailers change in policy to favour UK grown produce.

- All the produce was taken by road into the distribution system for the multiple retailers, with rejected produce brought back to Cornwall.

Structure of the sector

- The only use of Cornish branding was when produce was sold in Cornish supermarkets and with potatoes. Other than this there was no product differentiation.

- Competition was focussed mainly on price as the products were largely homogenous, once the standards of the multiples were achieved.

- There was a threshold size for these businesses to make the cost of operating a packhouse worthwhile, suggesting a gap between larger grower/packers and smaller growers.

Disposition to local sourcing

- All of the produce was local but the only way businesses of this scale could operate was by focussing on the national market.

- The most important local resource was labour, which was reported to be in short supply by all of those interviewed, particularly in the case of seasonal labour which these businesses were dependent on.

Style of food businesses

- The vegetable packers varied between very large farmers capturing extra value by packing their own produce, smaller growers co-operating to pack for the multiple retailers, to specialist packers who packed on a contract basis for other growers.

- These businesses ranged in scale from 10 to 80 full-time workers, with turnovers between £3 and £10 million per year.

- The owners and operators tended to have a farming background and their business reflected this with a strong family orientation. There is a concentration of managerial control and skill amongst family members.

Vegetable processors

- Unlike the vegetable packers who were closely linked with production, the vegetable processors, who peeled, sliced and cut vegetables, were not closely linked to production.

Routes to market

- Mainly wholesaling in specific districts within the County and 100% sales within Cornwall. One company retailing from farm shop and mail order which, when combined, amounted to 25% of sales.

Distribution channels

- All the fruit and vegetable processors distributed their own produce, feeling that this was an important way of achieving improved service.

- The more remote areas of the county were difficult to reach to and this hampered supplying them.

- It has been estimated that, in Cornwall, the value added up to the point of retail, mainly packaging and transport, is in the region of £4.1m for cauliflowers, £2.7m for spring greens and £0.9m for other vegetables.

Structure of sector

- Their product is essentially homogenous and the sector is highly competitive with a number of businesses in the County. Most felt that competitive advantage is based on a combination of price and quality of service.

- 100% of potatoes were sourced within the county whilst only 35% of the rest of the vegetables came from within the county.

Disposition to local sourcing

- Their disposition to local sourcing was mixed. Two companies were committed to local sourcing and used a wide range of local suppliers. Another two expressed little point in using local produce but used it opportunistically when it was in season and the price was competitive.

- Mixed messages were given about the extent of catering industry demand for local produce. One wholesaling company identified a demand whilst the other two said there was no demand for local fruit & vegetables from the catering industry.

- One specialist herb company had identified a strong demand for Cornish/local produce.

- The season has been extended from 5/6 months to 9/10 months as large-scale visitor attractions have developed in Cornwall (Eden & Maritime Museum cited as examples).

Style of food businesses

- A strong emphasis on family businesses again with managerial control concentrated within the family, although all appeared to be growth-orientated.

- One of the families interviewed sought to regulate their business growth to what they perceived as an optimum, whilst another of the businesses was new and keen to expand rapidly.

- One business reported that they had considered the possibility of expansion but were hampered by planning regulations from doing so.

Meat

Overview

- Traditionally livestock production in Cornwall has been based on a mix of livestock enterprises on one farm. Although this pattern is still common there is a movement towards specialisation.

- There are approximately 4,000 livestock holdings in the County covering the production of meat from poultry, deer, goats, sheep and cattle. There are approximately 2000 holdings with lowland cattle and sheep and 480 raising upland cattle and sheep.

- The production of meat in the County is differentiated between the majority of production sent straight into processing for manufactured products, and a significant and emerging sector of high quality, direct sales.

- There is considerable evidence that meat production in the County is gaining dynamism and adjusting to the new market realities after BSE and FMD.

- The introduction in 1995 of Fresh Meat Hygiene Regulations created two tiers of meat processing facilities. (a) 'Full throughput' abattoirs, which are able to process upwards of 20 European livestock units (ELU) (1 cattle unit, 10 lambs, 5 pigs), per week. These units fully comply with the regulations and can export red meat. (b) 'Low throughput' units which can slaughter up to 20 ELU a week but can only supply the UK domestic market.

- In Cornwall, there are presently 11 abattoirs, 7 'Full Throughput' and 4 'Low Throughput' units, including one of only two units licensed to export Beef to the EU in UK.

Table 19 - Livestock numbers 1998 to 2002

	1998	1999	2000	2001	2002	% change 1998 to 2002
Beef herd	46,741	46,695	45,127	43,805	39,227	-16%
Dairy herd	87,936	89,747	85,534	87,513	82,549	-6%
Total pigs	72,969	60,959	54,069	39,847	38,181	-48%
Total sheep	631,841	639,631	607,512	575,228	521,136	-18%

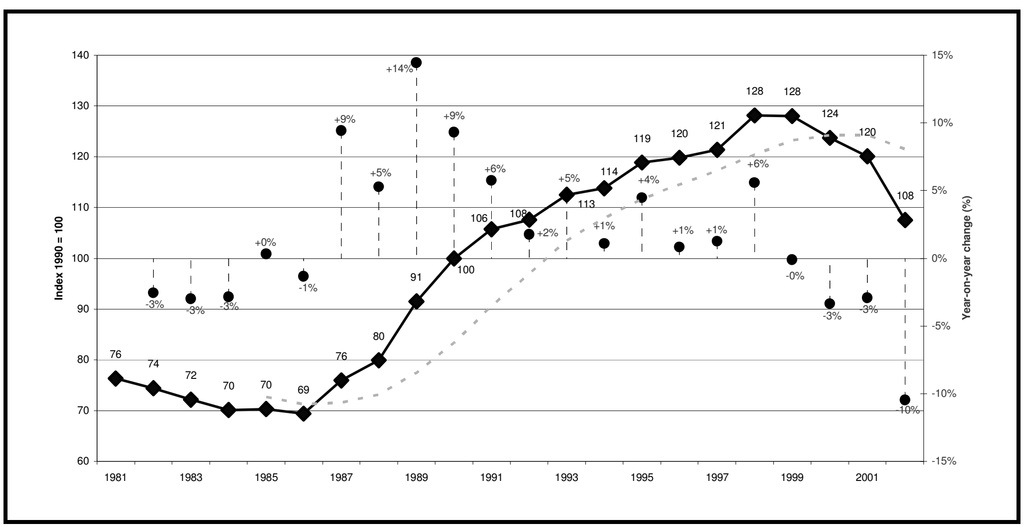
(Source – Centre for Rural Research 2003 from DEFRA June Census 2002 data)

- As is clear there has recently been a decline in the number of animals being kept in the County, in part this may be a reflection of broader national trends (see appendix 3) but also may reflect changes in agricultural businesses in the County.

Beef (and veal) production

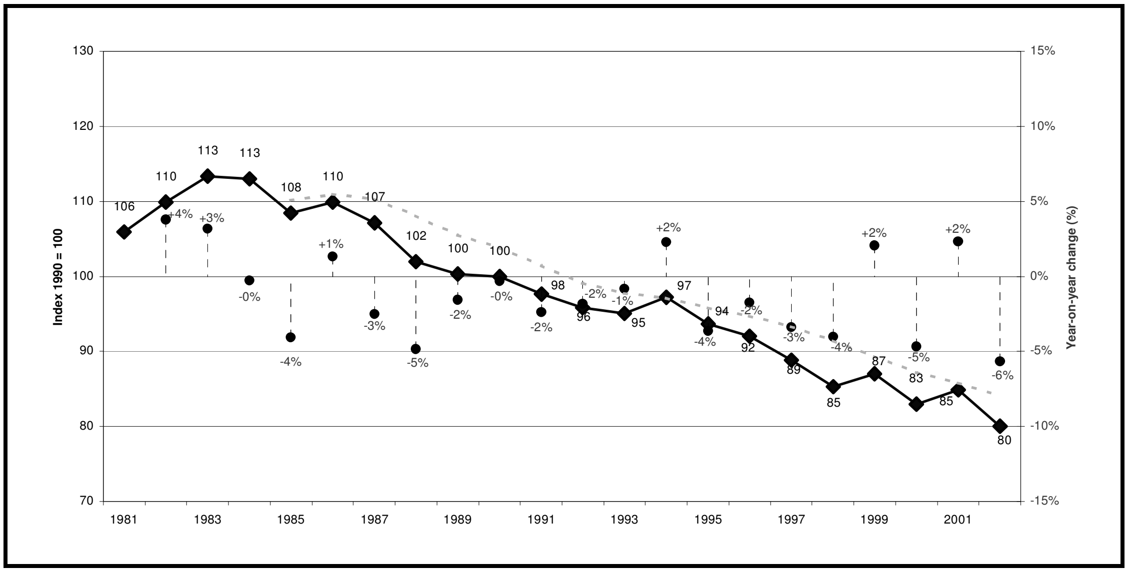
- More than half of the clean cattle slaughtered are from dairy herds rather than beef suckler herds.
- The average beef herd in Cornwall is 25 animals, making it smaller than the national average.
- Changes in support measures in recent years have significantly increased the proportion of dairy calves being grown-on to enter the beef market (see figure 4 below).
- There is of course a lag of about two years between changes in herd numbers and changes in beef supply.
- Finally, it should be born in mind that the supply of beef in 2001/02 was severely disrupted by FMD, both through the slaughter of clean cattle and through delays in getting clean cattle finished and marketed.

Figure 4 - Beef breeding herd in Cornwall 1981 - 2002 (indexed)



(Source – Centre for Rural Research 2003 from DEFRA data)

Figure 5 - Dairy breeding herd in Cornwall 1981 -2002 (indexed)



(Source – Centre for Rural Research 2003 from DEFRA data)

- Having risen steadily since the introduction of headage payments in 1986 the Cornish beef-breeding herd has undergone a sharp contraction in the last 3 years. In contrast, the dairy-breeding herd has continued a well-established shrinkage trend reflecting the yield improvements and a ceiling on production (milk quotas) (see figures 4 and 5).

- In 2002, the estimated production *from Cornish breeding stock* was around 20,000 tonnes dressed carcass weight. This is equivalent to 13,000 tonnes at retail (see table 20 below).

Table 20 - Cornish beef supply and use 2002[1]

	Dressed carcass weight, tonnes
Total production	19,700
Total domestic uses	8,200
Surplus / deficit	11,500
	(£m)
Value of production*	9.5
Value of surplus / deficit	5.6
Cornish production as % of UK production	2.8%
UK production as % of UK domestic use	73%
Cornish production as % of Cornish domestic use	241%

[1]Estimates based on calculations based on methodology and coefficients supplied by MLC Industry Strategy Consulting.
*Market price, does not include subsidies
(Source – Centre for Rural Research 2003 from DEFRA data)

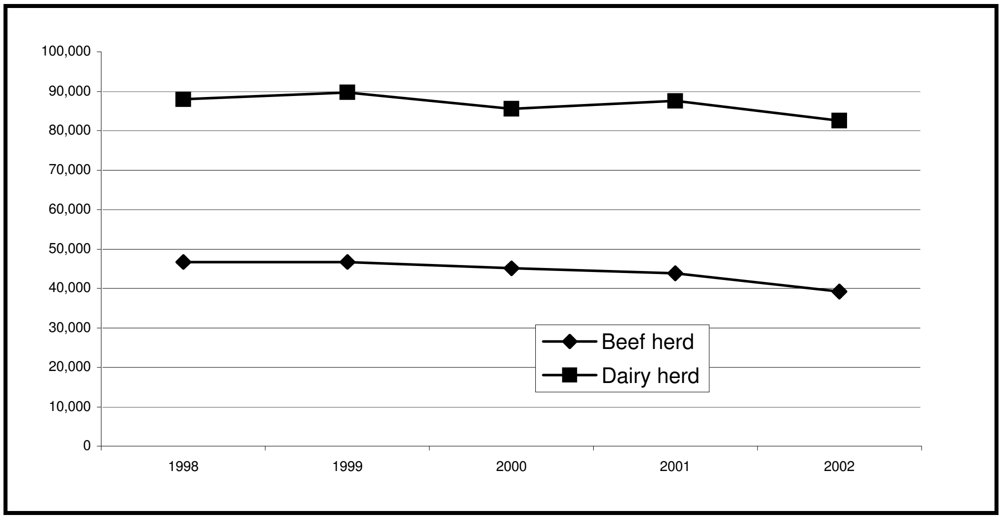
- Although it not possible to quantify exactly, the County is also a net importer of store animals for finishing but these have not been included in the calculation of beef output. Calculating the ‘Cornish’ element would in any case be problematic as it would involve estimating the value of the store animal coming in to the County as a proportion of its end value.

- Based on UK consumption figures, beef consumption in Cornwall was substantially less than total supply, leaving a surplus of some 11,500 tonnes with a market value in the region of £5.5 million, making the County a net exporter of Beef.

- This may be a slight over-valuation as no adjustment has been made for the higher proportion of pure dairy animals in Cornish marketings, which have a lower value.

- The majority of beef animals produced in Cornwall come from the dairy herd; this represents half the total production in the County. These animals tend to be ill suited to high quality beef production.

Table 21 - Cornish Beef and Dairy numbers 1998 to 2002



(Source – Centre for Rural Research from DEFRA data)

- The outlook for UK beef production is very complex. In the short-term, i.e. 2003 and 2004, further falls in output can be expected, reflecting falls in breeding herd numbers over the past two years. Breeding herd numbers in both dairy and beef are also expected to fall. However, there are a number of potentially significant changes in prospect which are likely to affect beef production.

- The Over Thirty Month Scheme (OTMS) is due for review by the Food Standards Agency this year and is likely to be terminated in the next couple of years. The majority of animals entering this scheme are cull cattle and the re-entry of this meat into the food chain would substantially increase the supply of beef for processing. A smaller part of the OTMS has been the off-loading of low value pure dairy clean cattle. The cessation of the Scheme would therefore reduce the incentive to raise these animals.

- However, this last point will be offset by the second change - the imminent ban on on-farm burials. The additional costs of disposal may push the balance in favour of raising pure dairy calves for meat.

- The third likely change is the possibility of re-definition of the EU BSE incidence categories, which, if it occurred, would place the UK in the same category as most other EU beef producers. With favourable exchange rates, this could lead to the resumption of in-bone beef exports from the UK.

- The fourth, and potentially most significant possible change, is the review of support measures under the CAP. As the proposals now stand, all headage payments would be replaced by a ‘de-coupled’ single income payment. Whilst the overall impact of this on production decisions on the suckler cow side is difficult to predict, clearly the de-coupling of support from production will raise the importance of underlying profitability.

- This may lead to a move towards very low cost extensive production, hence reducing supply. On the dairy side, the loss of headage payments on male cattle reared for beef (there are currently no headage payments on the breeding herd) will be counter-balanced by the elimination of the production ceiling.

- Relative to the prospects for the UK, the situation in Cornwall will differ mainly because of the higher proportion of dairy cows to beef. In the event of the de-coupling of support, this would probably mean that supply would be somewhat less affected.

- Beef herd numbers in the County have fallen more sharply than the UK average in the last couple of years with the implication that home-breed beef supply will also fall more sharply this year and next. However, the numbers of beef heifers in calf reported in the 2002 census, relative to previous years, would suggest some recovery in breeding herd numbers against the predicted national trend.

- As table 22 below shows Cornwall has a greater concentration of beef animals than the national average. This is in part a reflection of the importance of dairy farming in the County, but also the nature of the land.

Table 22 - The number of beef animals in Cornwall, with percentages and ratio[1]

Animals	England	No. in Cornwall	% of England	% ratio of land
Beef females				
Beef cows	700,133	43,805	6.3%	2.08
Heifers in Calf Beef	95,721	6,873	7.2%	2.38
Female for beef herd replacement	148,459	10,188	6.9%	2.28
Bulls				
Bulls over 2yrs	34,747	1,945	5.6%	1.86
Bulls 1to2yrs	14,215	674	4.7%	1.57
Other cattle over 1 year				
Female for Slaughter over 2yrs	97,607	8,487	8.7%	2.89
Female for Slaughter 1to2yrs	363,727	24,231	6.7%	2.21
Other Male over 2yrs	173,683	17,694	10.2%	3.38
Other Male 1to2yrs	541,960	41,212	7.6%	2.53
Other cattle and calves under 1 year				
Slaughter as Calves	36,964	1,282	3.5%	1.15
Female Calf under 1yr	747,080	45,467	6.1%	2.02
Male Calf under 1yr	664,813	42,400	6.4%	2.12
Total Cattle	**5,749,137**	**367,619**	6.4%	2.12

[1]Estimates from DEFRA data.

(Source – Centre for Rural Research 2003 from DEFRA data)

- There is a wide gap between the most efficient Cornish Beef producers, with a 33% gap in unit costs between the top and bottom third of producers in the production of Beef suckler herds. This means that as well as a variety of production styles and systems there is a high variation in the efficiency of producers.

- As Table 21 (above) shows there has been a change in the size of the beef herd in Cornwall. This is a reflection of the changing size of the dairy herd, but also changes in subsidy systems. The index figures show the volatility around the central trends but also the lagged effects between the decision to breed or buy an animal and its eventual marketing.

- Nationally 50% of the cattle slaughtered conform to the baseline standard (R4L on the EUROP grid), whilst in the South West only 33% of cattle make that grade. This is in part a reflection of the predominance of cattle from dairy herds and marks a lost opportunity for producers.

Processing

- There has been a division emerging between the full throughput abattoirs, which supply the multiple retailers and often have meat cutting facilities as part of their facilities, and the smaller low throughput plants, which tend to supply the local market.

- Cornwall Quality Livestock, a producers' co-op representing 320 Cornish producers sent 76% of its cattle through the St Merryn plant in 2002.

- There is no evidence that these large processors do not accommodate smaller producers or retailers, although specific arrangements have to be made for Organic producers. Rather it appears to be a matter of local negotiation.

Venison Production

- Cornwall has a far higher number of farmed deer than the national average representing over 10% of the English national herd (see table 23).

- Several farm businesses have supplied the multiple retailers, a relationship that appears to be undergoing considerable change with some major producers changing to direct supply, rather than accepting new contracts with the multiples.

- There is evidence that these producers are playing an important role in emerging producer networks. As they seek routes for direct sales of their meat they are encouraging and enabling others to do the same.

Table 23 - The number of farmed deer in Cornwall with percentages and ratio

Animal	No in England	**No in Cornwall**	**% of England**	**Ratio**
Farmed deer	**22,396**	**2,403**	**10.7%**	**3.56**

(Source – Centre for Rural Research 2003 from DEFRA data)

Sheep production

Structure of the sector

- As most sheep are raised on mixed livestock farms, they share similar patterns of production efficiency and outcomes as beef animals.
- Most sheep in the County are kept in flocks of 200-500 breeding animals. Although there are fewer very large flocks than the national average, there is an above average concentration of breeding ewes in the county (see table 24 below).
- The differences in production efficiency mean that the gap between the top third of ewes in lowland flocks and the bottom third is £13 per animal, whilst in the upland flocks the difference is £4.26 per ewe.
- Although the production of sheep in Cornwall is conducted on a diverse mix of farming systems and farm sizes, it 'funnels' toward a very tightly controlled link to the multiple retailers.
- This focus on serving the national food economy is shaping the production of lambs within the county, as the market flows are toward supplying quality standards of the multiple retailers.

Table 24 - Number of Sheep and Goats in Cornwall, with percentage and ratio

Sheep	No. in England	Cornwall	% of England	Ratio
Ewes	6,563,560	261,892	4.0%	1.33
Other Breeding Flock	1,012,394	29,989	3.0%	0.98
Rams	199,224	7,301	3.7%	1.22
Other Sheep	331,877	7,805	2.4%	0.78
Lambs under 1yr	8,032,491	268,289	3.3%	1.11
Total Sheep	**16,138,840**	**575,228**	3.6%	1.18

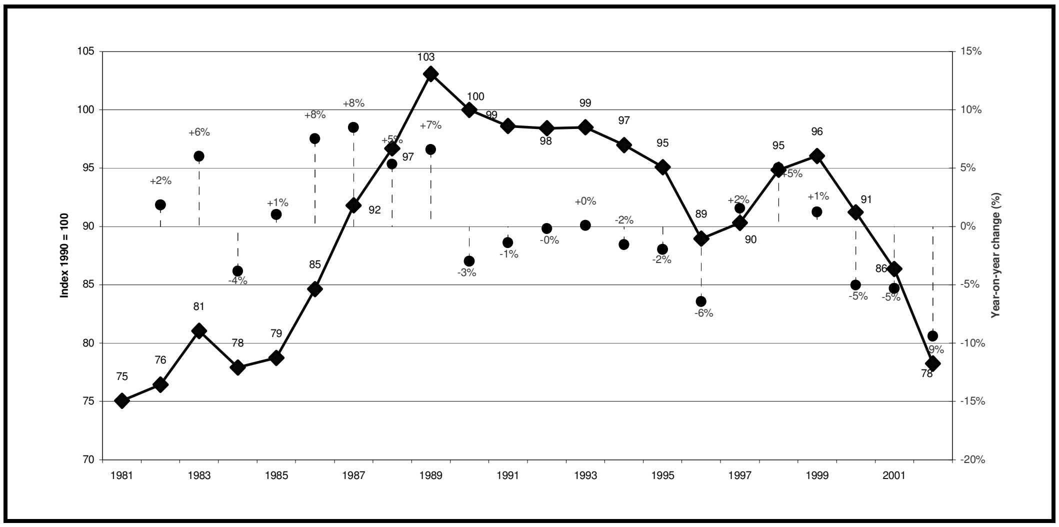
(Source – Centre for Rural Research 2003 from DEFRA June Census Data 2002)

- The trend in UK sheep meat production has been closely linked to the support regimes, the Sheep Annual Premium (SAP) and the Hill Livestock Compensatory

Allowance Scheme (HLCAs). Until last year both schemes were based on breeding flock numbers and the SAP continues to be financially the most important component.

- The huge increase in the Cornish flock from 1985 to 1989 can be directly attributed to 'headage' payments (see figure 6 below and appendix 3). Since 1992, a system of quotas has operated putting a ceiling on breeding flock numbers.

Figure 6 - Total Sheep, Cornwall, 1981 to 2002 (indexed)



(Source – Centre for Rural Research 2003 from DEFRA Data)

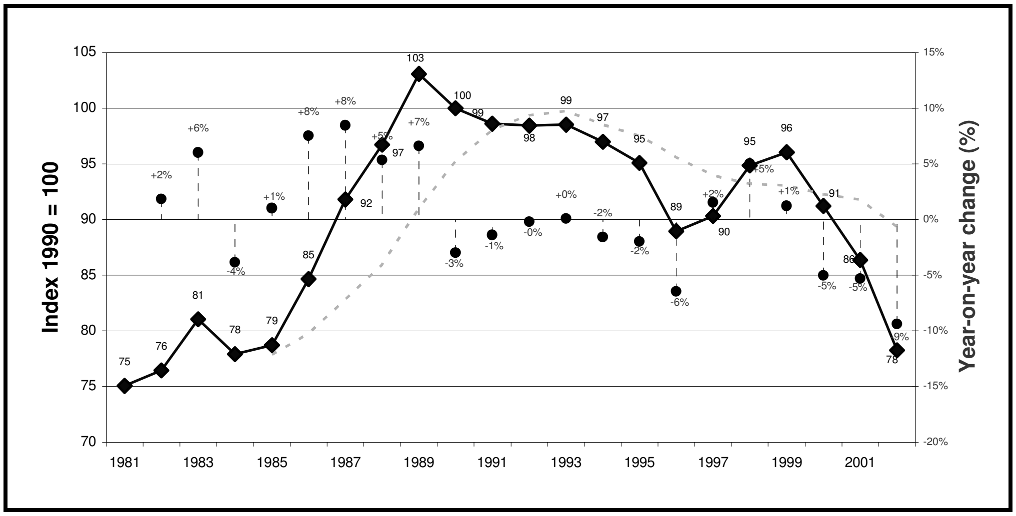
- This trend data in figure 7 needs to be considered alongside the follow points:

  a. Each year's lamb crop will mostly relate to the previous year's breeding flock.

  b. Lamb marketings were severely disrupted by the FMD crisis. There will have been a direct impact from both the slaughter of animals in bringing the outbreak under control and the delay in marketing due to movement restrictions.

  c. There will also be an ongoing effect as a higher proportion of lambs are retained to rebuild breeding flocks after the Foot and Mouth outbreak.

Figure 7 - Cornish breeding ewe flock, 1981 to 2002 (indexed)[12]

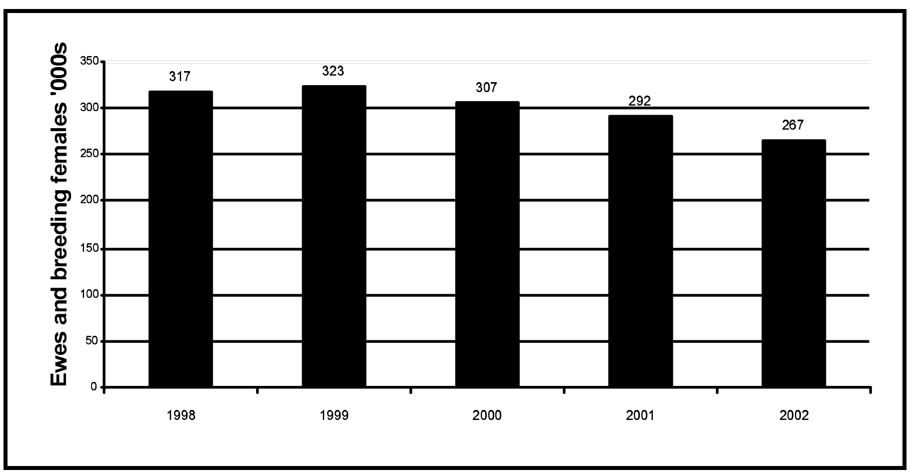


(Source – Centre for Rural Research 2003 from DEFRA data)

- Apart from a price 'spike' during the foot and mouth outbreak, the price of lamb in comparison has been relatively stable throughout recent times, allowing a greater stability of business planning (see appendix 3).

- The Cornish breeding flock has contracted by nearly 20% over the last five years, exacerbated by the FMD crisis in 2001.

Figure 19 Cornish sheep breeding flock 1998 to 2002 (numbers)



(Source – Centre for Rural Research 2003 from DEFRA data)

- The decline in the overall numbers of sheep in the County may reflect the change in the subsidy system and the concentration of fewer, larger farms on dairy production.

12 The green dotted trend line indicates a five year average, showing the trend within the overall figures.

- Nationally, lamb marketings in 2002 were about 20% lower than in a 'normal' year but the value of production was about the same because prices were higher. This pattern is likely to have been replicated in Cornwall.

Table 25 - Cornish lamb and mutton supply and use, 2002[1]

	Tonnes dressed carcass weight
Lamb marketings	4,100
Cull ewes and rams	900
Total production	5,000
Total domestic uses	3,100
Surplus / deficit	1,900
	£m
Value of lambs	9.4
Value of culls	0.7
Value of production*	10.1
Value of surplus / deficit**	3.9
Cornish production as % of UK production	1.6%
UK production as % of UK domestic use	85%
Cornish production as % of Cornish domestic use	162%

[1]Estimates based on calculations based on methodology and coefficients supplied by MLC Industry Strategy Consulting.
*Farm gate, excluding subsidies.
**Assumes consumption of lamb and cull meat is in the same proportions as production
(Source Centre for Rural Research 2003 from DEFRA data)

- Cornwall is probably a net importer of animals for finishing. The proximity of processing facilities may mean that animals are brought into the county, making it hard to establish their 'Cornishness'.

- In 2002 the estimated production of lamb and mutton *from Cornish breeding stock* was around 5000 tonnes of dressed carcass weight, of which 4000 tonnes would have been lamb (see table 25 above) .

- This is equivalent to about 3000 tonnes of lamb meat at retail. It is not possible calculate the net movement of store lambs into or out of the County.

- If the population of Cornwall eat lamb at the same rate as the rest of the UK[13], there would be a surplus of some 2000 tonnes, with a market value in the region of £4 million.

[13] Appendix 3 contains a comparison between national and regional consumption figures.

- This would indicate that the surplus of lamb would be about 1600 tonnes, equivalent to 1100 tonnes at retail.

- The balance of the shift in policies and prices in the wake of the Foot and Mouth would suggest that there would be a short-term growth in the size of the ewe flock and so in lamb production. In the medium term this is likely to fall away as subsidies and market prices become less favourable.

- The prospects for sheep meat in Cornwall are likely to be very similar to those for the UK as a whole. The recent fall in breeding flock numbers has been similar in proportion to the rest of the UK and so it can be expected that output recovery will also be similar.

Routes to Market & disposition to local sourcing

- Tesco is the most important multiple retailer taking lambs from the Cornish Market.

- H R Jasper and Son and St. Merryn both hold contracts to supply Tesco with lamb. In 2002 Cornwall Quality Livestock Producers sent 55% and 10% of their lambs, respectively, to these companies.

- The differences in production efficiency noted above are reflected in the differences in prices paid for carcasses. The variation can amount to as much as £16 for a lamb and £23 for a ewe.

- As Cornwall produces twice as much lamb as it consumes, the meat processing businesses have a solid base for 'exporting lamb' from the County. These relationships are based on contracts with one major retailer and so could be subject to radical revision if that relationship changed.

- Most Cornish citizens are likely to buy Cornish lamb through a multiple retailer, making them a leading but long distance local supplier.

- Lamb production in particular would initially appear to be a localised industry, although given the movement of live animals for finishing, the lack of any widespread local breeds and the close connections to the national market, local lamb production is becoming increasingly focused on the national market.

Style of Businesses

- As noted above, the meat production industry is well aware of the variety of methods of production in lamb and mutton, with a clear understanding of the financial consequences of these differences.

- The concentration of the bulk of lamb production through a relatively small number of processors suggests that production is focused on serving the national food economy.

- The production of lamb is largely conducted by family businesses that are typical of the Cornish agricultural industry whilst the slaughtering and processing of the animals is conducted by increasingly large private companies.

- The demands of the market as mediated by the multiple retailers are likely to become increasingly important in the future. This may result in a rising standard of production, so better prices for producer and processor alike, but it may also result in an increasing homogeneity of production methods.

Goat Production

- As well as a higher than average number of dairy goats (see table 26 below), Cornwall also has a larger than average number of commercial non-dairy goats. These animals are presumed to be part of the specialist supply of ethnic diets within the UK, although little data is available.

Table 26 - Non-Dairy Goats in Cornwall

Goats	No. in England	No. in Cornwall	% of England	Ratio
Non dairy Goats	11,260	517	4.6%	1.52
Other Goats	26,560	1,488	5.6%	1.86
Total Goats	**58,792**	**3,635**	**6.2%**	**2.05**

(Source – Centre for Rural Research 2003 from DEFRA June Census data 2002)

Pig Production

Structure of the industry

- Pork production across the EU but particularly in the UK has been facing severe price competition making it sensitive to even small fluctuations in trading conditions (see appendix 3 for more detail).

- Pig production has declined catastrophically in Cornwall in the past decade with a 35% decline in businesses, compared to a national decline of 15%.

- The units that remain are characterised by their small size. There are currently 290 breeding herds with an average of 18 sows, 20% of pig producers in the County having less than 3 sows. The national average is 92 sows per unit (see table 27 below).

Table 27 - Number of Pigs in Cornwall, with percentage and ratio

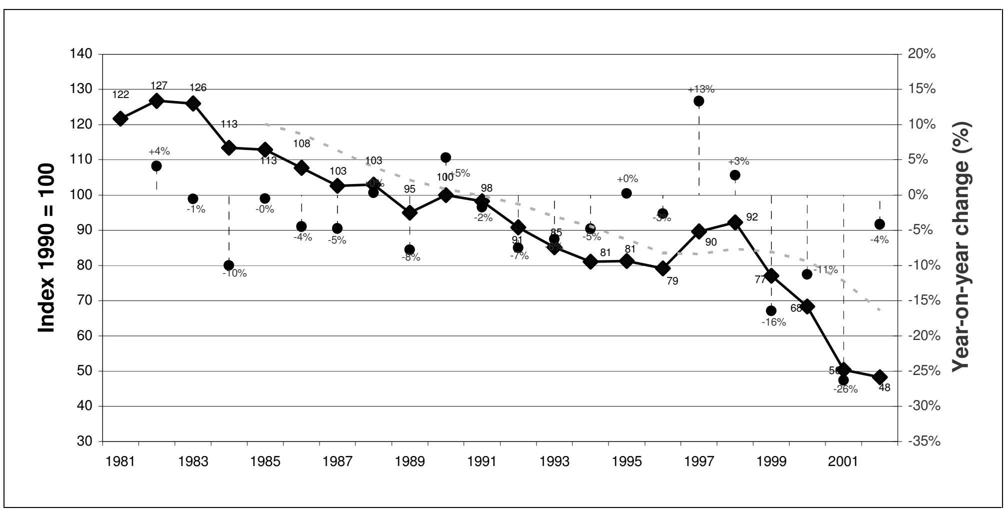
Pigs	No. in England	No in Cornwall	% of England	Ratio
Breeding pigs				
Sows in Pig	332,918	3,004	0.9%	0.30
Gilts in Pig	56,475	443	0.8%	0.26
Other Sows	99,888	1,184	1.2%	0.39
Boars in Service	24,047	305	1.3%	0.42
Gilts	49,127	498	1.0%	0.34
Fattening				
Sows for Fattening	8,376	105	1.3%	0.42
Pigs over 110kg	34,670	1,247	3.6%	1.19
Pigs 80to110kg	605,557	5,543	0.9%	0.30
Pigs 50 to 80kg	1,125,309	9,905	0.9%	0.29
Pigs 20 to 50kg	1,262,141	9,347	0.7%	0.25
Pigs under 20kg	1,222,487	8,337	0.7%	0.23
Total Pigs	**4,819,789**	**39,847**	0.8%	0.27

(Source –Centre for Rural Research 2003 from DEFRA June Census data 2002)

- This has left Cornwall with far lower numbers of pigs than the national average, which has resulted in several processors and retailers calling for an increased supply of pigs in the county.

- The overwhelming reason for this decline is the cost of transportation to Cornwall in the face of extreme competition in the pig market. The costs of transporting feed and bedding have added 3-4 pence per kilo dead weight, a prohibitive cost in the pig industry.

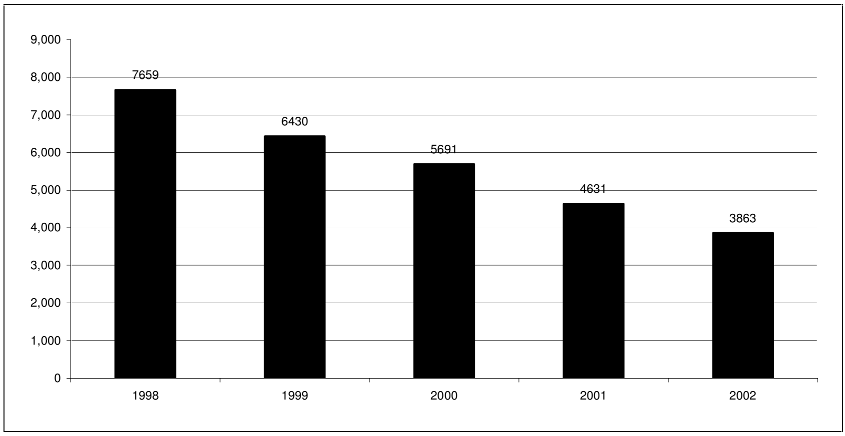
Table 28 - Cornish pig herd, 1981 to 2002 (indexed)



(Source – Centre for Rural Research 2003 from DEFRA data)

- Only 5% of the units in Cornwall have more than 500 pigs. This leaves the Cornish pork industry in a poor position to respond to large scale processing demand in the short term.

Table 29 - Cornish sows and gilts in pig, actual numbers, 1998 to 2002



(Source – Centre for Rural Research 2003 from DEFRA data)

- Cornwall is an importer of pork, because not enough pork is produced locally even if routes to market were in place.

- Cornish domestic consumption would support a pig industry twice the size of the present one (see table 30 below).

Table 30 - Cornish pig meat supply and use[14]

	Tonnes dressed carcass weight
Clean pigs marketings	5,600
Sows and boars	400
Total production	6,000
Total domestic uses	11,700
Surplus / deficit	-5,700
	£ m
Value of pigs	5.2
Value of culls	0.2
Value of production*	5.4
Value of surplus / deficit**	-5.1
Cornish production as % of UK production	0.8%
UK production as % of UK domestic use	57%
Cornish production as % of Cornish domestic use	51%

(Source – Centre for Rural Research 2003 from DEFRA data)

[14] Estimates based on calculations based on methodology and coefficients supplied by MLC Industry Strategy Consulting.

Routes to Market and disposition to local sourcing

- Large-scale pig producers are involved in large producer co-operatives to ensure that they retain as much of the value of the product as possible.

- The only pig-producers' co-operative operating in the county is 'Thames Valley Pigs' which is supplied by 14 farms in Cornwall, with approximately £2.5 million pigs supplied from the county.

- Pigs supplied to 'Thames Valley Pigs' are slaughtered in either Devon or Dalehead, near Bristol, the meat being sold by the abattoir to either Tesco or Safeway.

- H R Jasper and Son slaughter pigs for several small scale craft producers but those producers are struggling to achieve an adequate supply of pigs from Cornwall.

- One of the major barriers to the growth of the pig industry in Cornwall is the supply of pigs; equally the barrier to entering the industry is the low level of profit.

Meat Retailing and distribution

- As noted above, much of the production of meat is tightly integrated with the supply of meat to the multiple retailers and this route to the market remains overwhelmingly the most economically important one.

- The role of abattoirs appears to be rapidly evolving, as the larger plants offer a meat cutting and processing service on the same site. In some sectors, they also appear to determine prices and negotiate between the producer and the retailer. The movement toward producer co-operatives appears to be a signal of producer dissatisfaction with the balance of these negotiations.

- There appears to be a considerable group of almost a third of meat producers who produce meat of a lower quality, which represents an opportunity lost for them and changes the structure of the meat market.

- From our interviews with smaller meat producers there appears to be an emergent, direct trading to consumers by meat producers. These patterns are only emerging and do not represent as economically important as those supplying the multiple retailers but they are an emerging alternative route to market.

- These new networks of production and supply comprise either existing graziers/butchers or farmers interested in direct supply to consumers. Importantly these businesses act as the collecting point for a wider informal network of farmers.

- The grazier/butcher networks tend to be family businesses producing a small number of animals themselves usually through a ‘traditional’ system of production. They characterise these animals as traceable, quality supplies – mostly grown on their own farm, without the use of growth promoters or prophylactic antibiotics and using rare breeds. The animals are slaughtered locally if possible, hung for longer than is the contemporary practice, then sold through a butcher’s shop owned by the business.

- Farmers who have chosen to stop supplying the multiple retailers often lead the informal producer networks. They follow the same production and slaughtering practices of the grazier/butchers but do not have a shop. Instead, they rely on farmers’ markets and trade fairs to create direct contact with the customer, then using brochures, catalogues and websites to sustain that trade.

- The key components in these routes to the market place are courier services delivering to the rest of the UK. The containers and packaging involved are considered of central importance, as is the speed of delivery. For the consumer the cost of the courier service is offset by the savings achieved by dealing directly with the supplier.

- To sustain their trade the leader of the informal producer networks recruits other producers on an informal basis who share their style of production but do not share their marketing skills. In this way, one producer becomes the collecting point and 'shop front' for a number of other producers.

- The grazier/butchers share a similar pattern of building informal networks of producers. To ensure the distinctiveness of their product they also appear to have developed a processing capacity for high value, high quality sausages, pies and charcuterie.

- None of these systems of supply is reliant on external certification or approval but rather on direct contact with the farmer/butcher and a bond of trust built with the consumer. Although very proud of the Cornish provenance of their produce, the most important marketing tool is the quality of the produce and the link between producer and consumer.

- Both the grazier/butchers and the informal networks of producers have actively cultivated customers amongst summer visitors who they continue to supply via couriers services later in the year.

- All the businesses in these networks are family owned and run, often across several generations. Most appear to want to secure their livelihoods from what they feel is the lack of control that they have experienced in dealing with the multiple retailers. Although many are seeking to expand their businesses they are trying to do so in a manner that will retain their control.

Poultry

- As the Taste of the West Review of the UK Food market makes clear, chicken has become an increasingly important and popular food, valued for its price, convenience and healthiness.

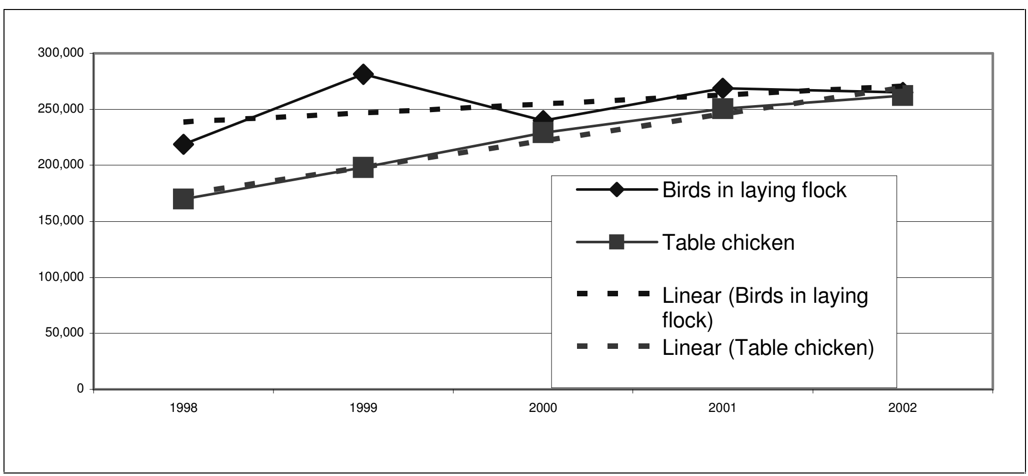
Structure of the sector

- The sector is dominated by a relatively small number of industrial-scale producers who are often reluctant to disclose information about bird numbers. This means that some of the data is less reliable than it might be for other sectors[15].

- There may be as much as 20% disparity between actual and recorded production. At County level the non-recording of even one or two major producers would make a very significant difference to the overall picture.

- The UK trends show a steady increase in production and supply of poultry meat but a fairly static picture for eggs. The level of self-sufficiency in poultry meat[16] has remained stable over the last 5 years but has fallen for eggs with rising imports from the EU (see appendix 3 and Review of the UK food market).

Figure 8- Poultry flocks in Cornwall 1998 to 2002



(Source – Centre for Rural Research 2003 from DEFRA data)

[15] Consequently many of the figures used in this section are not as robust as they might otherwise be.
[16] Interestingly, in the context of press coverage of the importation of chicken from Brazil and Thailand, imports of poultry meat into the UK from outside the EU have actually been falling and we now export beyond the EU about the same quantity as we import.

- As can be seen in Figure 8 above the number of chickens in Cornwall has been increasing in the last 5 years, with both the egg laying flock and the number of table birds increasing.

Table 31 - Poultry and Fowls in Cornwall, with percentage and ratio

Fowls and poultry	No. in England	No. in Cornwall	% of England	Ratio
Pullets	7,521,759	333,231	4.4%	1.47
Layers	24,031,413	269,025	1.1%	0.37
Total Layers	**31,553,172**	**602,256**	**1.9%**	**0.63**
Layer Breeders	886,588	[redacted]	[redacted]	[redacted]
Broiler Breeders	5,953,681	[redacted]	[redacted]	[redacted]
Cocks	611,859	8,013	1.3%	0.43
Total Breeding Fowls	**7,452,128**	**17,662**	**0.2%**	**0.08**
Table Chicken	85,590,298	250,431	0.3%	0.10
Total Fowls	**124,595,598**	**870,349**	**0.7%**	**0.23**
Total Ducks	2,565,344	5,285	0.2%	0.07
Geese	116,351	2,502	2.2%	0.71
Turkeys	8,626,987	3,546	0.0%	0.01
All other birds	3,597,905	6,084	0.2%	0.06

(Source – Centre for Rural Research 2003 from DEFRA data. Figures for layer breeders and broiler breeders removed at DEFRA's request to protect confidentiality)

- As is apparent from Table 31 above there are few areas where the poultry industry in Cornwall has developed to the national average.

- These figures would indicate that there is no hatchery in the county, making producers reliant on an out of County source of chicks.

- Although there are few large scale producers who supply the national market there appears to be a growth in the smaller scale producers.

Table 32 - Cornish Poultry meat and eggs supply and use, 2002[1]

	Poultry meat*	Eggs
	Tonnes carcass weight	'000 dozen
Production	3,300	7,900
Domestic use	14,900	8,400
Surplus / deficit	-11,100	-500
	(£m)$	(£m)@
Value of production	2.6	3.0
Value of surplus / deficit	-8.9	-0.2
Cornish production as % of UK production	0.2%	0.9%
UK production as % of UK domestic use	91%	87%
Cornish production as % of Cornish domestic use	22%	94%

(Source – Centre for Rural Research from DEFRA June Census data 2002)

[1]Estimates based on calculations based on methodology and coefficients supplied by MLC Industry Strategy Consulting.

$ Producer Prices

@ Packer to producer prices

*Includes turkeys, ducks and geese

- Cornwall produces an estimated 3 million kilos of poultry meat per annum, equivalent to just over a fifth of estimated consumption (see table 32).

- The value of the net 'deficit' in poultry meat is in the region of £9 million per annum.

- The production of poultry meat is largely dependent on the availability of specialist hatcheries and poultry processors.

- Cornwall appears to be nearly self-sufficient in total egg production.

- The available data is not disaggregated to allow proportions of free-range, organic, barn or battery eggs to be established.

- The county produces far more growing pullets than would be needed to maintain the number of birds in lay. Based on the UK ratio of pullets to laying birds, Cornwall would appear to be a net exporter of about 275,000 pullets per annum.

Routes to the Market & disposition to local sourcing

- Poultry production in the County is highly diverse with, in particular, various scales of production in eggs from large scale integrated producer/packer business to farmgate sales from a small group of hens.

- The large-scale integrated packers are well represented in the county. Companies such as Freshlay, Stonegates and Horizon, all have a major presence and egg producers who work with them. These companies serve largely the national food economy.

- There is some evidence of free-range and Organic eggs being sold directly, particularly to visitors during the summer.

- The principal barriers to growth appear to be internal to the infrastructure of the Cornish poultry production industry. For meat production, in particular, a regular and local source of chicks is important.

- The overall market for eggs and poultry appears to be relatively stable (see appendix 3), with future EU regulations over bird welfare, if adopted, likely to create a level playing field within Europe.

Styles of food business

- Diversity is again the watchword of the sector with highly growth-orientated businesses such as Freshlay being balanced against more flexible and informal egg production catering for visitor demands for fresh, local eggs.

- The localness of the business seems entirely dependent on scale. As the business grows it becomes less dependent on its physical locality.

- Studies of the sector would be useful to allow for accurate business planning to take place.

- Opportunity certainly exists for an expanded poultry sector. The decisions will need to be made on the quality of the product and the style of production.

Organic food

Organic production

Structure of the sector

- Organic production is a sector that is expanding rapidly and is relatively well researched, although the results of some of those studies are not yet available.

- Currently there are 136 Organic holdings registered with the various certification agencies and at present 9000 ha. of land is certified as Organic.

- This represents 15% of the total number of Organic farms in the region but only 8.25% of the Organic land in the region, which is reflected in the average size of an organic farm in Cornwall being just 23 ha; far smaller than their conventional counterparts.

- The mean size of farm is depressed by the role played in the sector by smaller holders. Some of these produce very high value products such as specialist horticultural holdings while some smaller holdings are combined with professional or tourism services.

- The regional return for Organic production has been calculated at £772/ha, which would put the turnover for the average Cornish Organic holding at £16,859 and on these figures the sector would have an income of £2.3 million at current levels.

Routes to markets & disposition to local sourcing

- Organic dairy farming has played an important part in the recent growth in Organic farming in Cornwall. With an over-supply of Organic milk the future status of these farms appears to be in doubt. At present some Organic milk is being sold as 'conventional' milk due to lack of demand.

- Our interviews focused on larger Organic producers who, it emerged, had integrated their routes to markets within their farm businesses.

- Both of these large farm businesses focussed on Organic meat production – a combination of beef, pork and lamb production. Their turnovers were both over £100,000 a year and each farm employed 2 or more people on a full time basis with a variable number of part-time workers.

- Each farm had a different pattern of distribution and retail for their meat but both relied on farm shops, their own and others locally, direct sales through farm gate sales or local food schemes.

- Both these major producers of Organic meat were looking for new sales opportunities locally, either through wholesalers or direct sales.

- Organic box schemes are supporting several horticultural holdings within the county, creating a new market place for vegetables and fruit.

- Visitors have shown a strong interest in having access to local Organic produce during their stay and several businesses are responding to that opportunity.

- The major processor in the County reports some difficulty in obtaining local supplies, which may be a reflection of the strong existing routes to the market place but also the newness of the sector.

Organic Processing

- One of the major barriers to increased local Organic processing is adequate supply as many producers market their own produce.

- Of all the sectors in this report, the Organic processing sector was the most committed to local sourcing and does so where possible but there is limited availability.

- Processors also use local suppliers for equipment purchase and servicing.

- At the time of writing Organic food processors source over 50% of vegetables for soups and pasta sauces from Cornwall and are committed to increase the use of local inputs if/when they become available.

- Many small producers want to sell as much from Cornwall direct to their consumers as possible and the larger scale producers sell large volumes to supermarkets so there is a shortage of supply to local processors and retail outlets. The majority of organic produce is retailed direct to customers by producers or sold in large volumes to supermarket buyers.

- Barriers to growth include storage facilities as turnover and storage of stock is a challenge with a fresh product.

- Routes to market are mixed and include direct retailing in the County and wholesaling in the South East.

Style of Businesses

- Although the Organic sector demonstrates the now familiar diversity of business types and styles, Organic holdings more frequently form part of a portfolio of economic activities by their owners.

- This is reflected in the size of the holdings, which does not indicate that they are not viable businesses but that many of them are not expected to be the sole source of income. This gives rise to a different emphasis on the business objectives and strategies.

- The determination by producers to keep elements of retailing and sales to themselves limits the opportunity for specialist small retailers and processors to exist.

Section 3

Processed Food Production

The details about food processors are less easily established than those around the production and processing of primary food products. Firstly, unlike the processing described above it is not necessarily linked to the production of the basic material in the same area. It is not easy to follow the chain from primary product and then onto the processing of food. Secondly, unlike the primary sector where large amounts of data are collected and public money spent, the processing industry is the sphere of private business. Most companies, even the very large businesses are private holdings, not required to disclose their accounts in the same way as public companies. Even smaller businesses are very conscious of the market sensitivity of any information they disclose. The result is that the data available is more descriptive but we hope when combined with the food chains in the next section will provide a useful characterisation of these various sectors.

Beverages

The diversity of the beverages sector defies ready description as a full range of products and business styles are evident, from the micro-brewery based on local products and selling only to the immediate locality, to drink producers who sell more abroad than in the county. The small-scale structure of the businesses and the competitiveness of the sector has restricted the data we have been able to provide.

Wine (& fruit wines)

- There is one major producer in the Cornish wine sector, which markets wine throughout the county and into the national food economy.
- Currently the capacity for wine production stands in excess of 100,000 bottles a year; far beyond the capacity of the County to produce grapes.
- The fortunes of all wine producers are dependent on the crop of grapes which varies greatly between years, giving the sector its character but also a peculiar dynamic.

Cider production

- Cornwall is not well suited for cider production, as strong winds off the sea inhibit good crop formation (see table 16 above). This means that most cider produced in the County comes from apples brought in from outside the County.

- The largest cider company in the County is the Cornwall Scrumpy Company that produces 60-70,000 gallons of cider a year.

- As table 18 shows, Cornwall has a small number of Commercial orchards but a very large number of non-commercial Orchards, which could offer the opportunity for a revival of localised Cider production.

Soft drink & water production

- Non-alcoholic, adult orientated cordials and prepared drinks represent a small but dynamic area of the Cornish food economy, with several smaller businesses servicing a diverse range of local, national and international markets. The citrus fruit base of these drinks is usually prepared from international supply routes, although there is significant potential for new product ranges from indigenous fruits.

- Spring water represents one of the most local of all products. There is an emerging and dynamic Cornish spring water sector that is looking to provide a local alternative to the national brands. As yet this market is underdeveloped for local products and represents an opportunity for growth.

Routes to market

- A variety of routes are taken to market, reflecting the type and style of the business. It is possible to say that:

    - More than half of annual wine production is sold in the County.

    - Most cider produced in Cornwall is sold at the press or farm that produced it.

    - Apart from those supplying multiple retailers most trade is predominantly seasonal.

    - A wide-ranging web of retailers is used throughout the County from pubs through to van sales.

Disposition to local sourcing

- Most producers are sensitive to the value of Cornwall in selling their product although the opportunity and desire to source locally is highly varied.

- For most producers the primary product is either produced or sourced within the County, although many primary and secondary ingredients are unavailable locally or unavailable in sufficient quantities.

- Most equipment and packaging is not available locally, resulting in a heavy use of regional suppliers for packaging and international sourcing of equipment.

Style of businesses & Structure of the sector

- All of the businesses interviewed were family businesses, with a tendency to be smaller and focussed on specific markets.
- Most businesses were interested in managed growth and a balance of outlets. The primary goal was to retain family control of the business, limiting both the size of the business to that end and trying to ensure no one outlet gained too much power.
- The overarching driver to structuring the sector is the visitor economy, meaning that most county sales are achieved on a seasonal and on-site basis.

Confectionery

- The confectionery producing companies in the County are mainly medium to large companies, which do mixed retailing and wholesaling with varying proportions of sales within the County – 25% - 95%.
- There is a minor use of sales agents and distributors where possible. Companies mainly do their own distribution.
- There is a strong Cornish 'brand' but limited use of local inputs, except labour, and small quantities of cream. One farm-based company uses its own dairy products for fudge and ice-cream.
- The two medium sized companies are growing rapidly and aim to expand out of the County with high value sales. The two larger companies reached full capacity on existing sites and are not looking for further expansion.
- All are prepared and interested to increase local inputs if available.
- All started as small family businesses and are in the process of, or already developed into, manufacturing businesses.
- Demand for mentoring was expressed to provide assistance for the transition process from family business to manufacturing firm.

Preserves & Miscellaneous

- The preserves and miscellaneous sector include a range of companies producing preserves, desserts, packaged dried fruit, herbs & spices and bakery products.

- All have mixed routes to market with three out of four undertaking limited direct retail and mainly wholesaling. The bakery is concentrating on retailing and shrinking the proportion of wholesale sales as a company aim.

- All companies do their own distribution and sales.

- All are interested in local sourcing but have limited current use of Cornish inputs mainly due to unavailability or large volumes required.

- The bakery is committed to using Cornish inputs for making pasties and source according to quality. They are currently not looking to increase or change the proportion of local inputs (90% potatoes Cornish, 50% meat Cornish). All other inputs come from Cornwall based suppliers.

- Pastries and other cakes often form an important sideline to the pasty business that dominates the production of baked goods. Sourcing locally is problematic although some bakeries do belong to a regional co-operative to source baking goods at large enough quantities.

- Two companies are looking to generate their own Cornish inputs and one to increase local inputs as the company expands, developing its Cornish brand and range of products.

- Two companies are growing and two are at full capacity and unlikely to grow further.

Section 4

Trends and Analysis

As will be apparent from the description of the food processing and producing enterprises above the complexity and diversity of the Cornish food economy precludes simple characterisation. A full portrait of the County's food economy would require considerable time and resources. In this next section, we bring together the results of our examination of the food economy to suggest some outlines of how various sectors of the food economy work. Our intention in these models is to demonstrate the context in which businesses operate. First it is worthwhile summarising some of the trends that have appeared from our earlier descriptions.

A Tripartite food economy

One of the overwhelming factors conditioning and making the Cornish food economy more complex is the composition of the economic drivers in the economy. To clarify these it is necessary to consider the County's food economy as having 2 centres and 2 seasons. The first centre around which the food economy moves is the local food economy in the County but mostly in the region, whilst the second is the national food economy, in particular the draw of multiple retailers. The pull of these sectors is unequal to the extent that some food businesses supply either the local economy or the national one, very infrequently both. If a food business, whether a farm or a processor, wants to achieve rapid growth and to achieve a certain scale it must attach itself to the national economy. The overwhelming bulk of the Cornish food economy serves the national market, which is reflected in the trading postures taken by all the major food processors and the largest primary producers in liquid milk, meat and fish. For many of these producers and processors the local market is addressed through the centralised distribution systems of the multiple retailers.

The national food economy is beyond the seasons, which have largely been off-set by global supply and technology. For the local food economy the seasons remain paramount. The local winter food economy of Cornwall is dependent on selling its produce to a population that often face quite severe economic constraints (see socio-economic profile above). Restricted job opportunities, limited local incomes and a base of very small businesses mean that the more affluent consumers as a large group are missing from Cornwall. Locally food does reach the all year round residents but mostly through the supermarkets, so in a very indirect manner. Many of the businesses that produce higher value or conspicuously 'Cornish' produce struggle to remain active through the winter. By contrast the summer economy benefits from a visiting population, most of whom stay in self-catering accommodation. What visitors to the county eat during their stay becomes of central importance with many food businesses seeking to make enough money during this period to sustain them through the winter. During the summer, the market comes to the food producers, who are able to tailor the food buying experience to add value to their produce in a way that most producers of their scale or size would not be able to do. Many producers, particularly those producing meat, use it as an opportunity to create a personal relationship with their customers, which they continue through mail order and courier services. The contrast and conflicts between these two seasonal food economies shape much of the Cornish food economy.

Trends

- At one end of the range there are homogenous primary products – fruit, vegetables and liquid milk which have a low unit value and therefore are very price sensitive. At the opposite end are highly differentiated products that are linked to a farm visit and have good direct retailing opportunities.

- Use of Cornish produce by processors varies tremendously from none at all in the fruit and vegetable sector, to use of the Cornish brand by confectionery manufacturers despite limited actual use of Cornish inputs, through to vertically integrated farm businesses with manufacturing using dairy products and retailing on site. The differences are reflected in the various sectors with the most use of 'Cornishness' in the Organic, confectionery, dairy and bakery sectors and least in fruit and vegetable, poultry, egg, and mainstream meat sectors. There is a positive relationship between the level of 'Cornishness' promoted and direct retailing. In the main wholesale products are undifferentiated and source is unimportant.

- Large-scale Cornish processors tend to use local produce opportunistically when the products are in season in sufficient quantities and the price is competitive. This reflects the importance of continuous rather than seasonal produce requirements of food processing businesses.

- Our research found that the most important issues around local sourcing are:

    a. Volume processors require a scale or volume that local producers find difficult to match, although there is an emerging sector of producer co-operatives and larger wholesalers seeking to plug this gap.

    b. Local suppliers need to conform to the standards of service required by large processors or retailers, as much as achieving production quality standards.

    c. Many smaller producers are reluctant to enter into supply contracts with large retailers or processors because of the imbalance of power inherent within them, leading to a loss of control. The producers of high quality food are reluctant to compromise quality.

    d. All businesses reported problems with either gaining or retaining a suitably skilled workforce.

- Of those companies using local products, only the organic processor cited immediate local sourcing problems. Most companies were established in their sourcing patterns.

One dessert manufacturer expressed an interest in future sourcing of Cornish fruit – for convenience reasons rather than for branding as Cornish.

- Barriers to sales appeared to be solved through being able to 'project' the business beyond the physical location of Cornwall. The businesses interviewed achieved this through the following means:

    a. Limited use of sales agents in the South East to generate sales. A minority of businesses sold all of their products in the South East and a large number had some percentage of sales in the South East.

    b. Extensive use of courier services to deliver products throughout the UK. No particular company was favoured but speed was highly valued and the cost deferred by offering lowering prices.

    c. The distribution of processed goods within the County took considerable time and resources. This was generally viewed as money well spent as service augmented the quality of the products.

- Barriers to growth ranged between sectors and business size but focussed around the following areas:

    a. Location – the physical remoteness of some farmer-producer/processors limited their ability to expand.

    b. Planning regulations that limited expansion on site were particularly important for farmer producer/processors.

    c. Supply of suitable inputs. Several businesses indicated that they lacked opportunity to source inputs for their businesses – these ranged from suitable pigs through to spices.

    d. Management time and effort required: many smaller businesses were at the limit that the management team, frequently a family, could manage.

- No processing company interviewed cited lack of demand or market for their product as a barrier to growth.

- All companies reported being either in a growth phase, holding off growth while they consolidated current business or had reached maximum capacity.

- Several opportunities for increased local sourcing were suggested by those taking part in the research:

    a. Processed egg products, in particular liquid egg.

    b. Processed milk products for fudge makers. Few supplies of milk based products from liquid milk appeared to be available for food manufacturers in the county.

    c. Increased organic vegetable production. It was suggested that the risk of conversion be taken away from the producer.

- Several opportunities have been identified for assistance and mutual support:

    a. Demand was expressed for marketing assistance to target high-end markets in the South East. It was felt that many lucrative markets could be opened through assistance to increase the marketing capacity within smaller businesses.

    b. Organising producer co-operatives or clearing houses to supply the large processors with local produce and to bring in other supplies to achieve the bulk required.

    c. An opportunity for shared logistics. During the summer in particular, many smaller businesses expressed frustration at the difficulties in being supplied and supplying others.

    d. Shared retail outlets in central locations. Co-operatively run retail spaces would provide an alternative to farm gate or localised sales, overcoming some of the logistical bottlenecks mentioned above.

- These trends suggest a community of businesses that are successful in identifying routes to continued survival but were often struggling to achieve the growth they had hoped, principally because of limitations within their own business. Often these revolved around the issue of labour, both in people to conduct the production process but also to guide the business.

- In table 33 below we provide a matrix that allows for a basic comparison between the sectors, thereby reducing the complexity of the situation. It reveals a generally positive outlook across all sectors.

- With regard to local sourcing the outlook is more mixed as the different sectors respond to the demands of their differentiated market places.

- This mixed picture is similarly reflected in the sales outlook, with local sales for the larger processors being distinctly secondary to the national market and no sector focussed solely on the local food economy.

- Labour has been of critical importance in several of the businesses, with a lack of manual labour to carry out many functions in the business and on occasions a lack of skilled managerial staff to take the business forward.

- The socio-economic structure of the County has led to a situation where there are large food processing companies, several large horticultural companies and a raft of smaller businesses. The County lacks any sizeable cadre of medium sized firms who are able to operate beyond the scope of the owner-manager businesses typical of the area.

- The County has developed several large food processing businesses which are generating considerable added value in the County. It is this dynamic area of the food economy that the emerging producer/processor firms need to be focusing on.

- The structure of the County's food businesses at the present time indicates that there is a missing group of medium size businesses. Most of the businesses interviewed were either very large or employed less than 15 full time equivalent staff (see Table 1). Some of the reasons for this missing middle group of businesses appeared to be:

    a. The impact of a highly seasonal economy capping the size of the businesses and restricting the turnover that would allow for sustained growth.

    b. Inability of the current business managers to increase their management capacity either because of the family base of the business or lack of suitably skilled staff.

    c. Many business operators expressed the desire for coaching or mentoring through a period of expansion.

- This missing middle ground represents a range of lost opportunities for the Cornish food economy, where the larger businesses could start to create the synergies that would start to establish a significant localised food economy anchored in medium sized businesses focused on the local and regional economy.

Table 33 - Food Sector Comparisons

Primary food production	Sector outlook	Local	Sales
1. Dairy	Growing and expanding	Strong local production & value added; increasingly diverse production	Mainly national
2. Fish	Highly competitive	Little processing	Mainly European
3. Horticulture	Competitive and growing	Mixed local wholesaling and processing; processing growth sector	Local to catering sector; regional and national
4. Meat	Outlook uncertain	Some local processing & packaging	Large volumes to national market Increasing high quality niche market developing sales to local & national market
5. Poultry & eggs	Steady growth	Strong local egg consumption; Limited processing	Local & national sales
6. Organic	Expanding rapidly Still dominated by small holders	Mixed local wholesaling and direct retailing	Local and national
Food processing			
1. Beverages	Opportunities for growth		
2. Confectionary	Expanding	Local processing Very few local inputs	Local, National & International
3. Preserves & Misc	Expanding and competitive	Local processing; Limited local inputs used	Local & national
4. Savouries and pasties	The major producers expanding nationally, local producers look for efficiencies	All sectors trying to source locally where feasible, a major opportunity for supply chain co-ordination	Local and national

Cornish Food Chains

The sectoral food chains are summarised in the following diagrams and offer an insight into the relationship between the producers and the end product, and the extent of local inputs into the products of various sectors. Some sectors, such as high value dairy and meat, and confectionery and fruit and vegetables have similar short chains, while other sectors such as the dairy and organic chains are more complex and distinctive.

Those sectors with the closest relationship between producer and consumer are high value dairy, meat and organics. Other products which require more processing or processing on a larger scale have a less direct route to market as they go through a number of stages of production and distribution. A typical example of the process of assembling a Cornish pasty on an industrial scale is shown. As well as the significant number of producers, wholesalers and processors involved, many of whom are based in the county it is also worth noting that the quantity of inputs produced in Cornwall is limited. This includes 80% of meat, an unknown quantity of vegetables as they are supplied by a wholesaler who sources in Bristol but receives vegetables from Cornwall, and fats and pastry are sourced out of the County.

Apart from a few high value and niche products, this is typical of processed products. In the confectionery and fruit and vegetables sectors although the assembling, processing or manufacturing are undertaken within the County, the majority of inputs are sourced elsewhere. However, many of the suppliers wholesaling inputs to Cornish companies are based in Cornwall.

High value meat and dairy chain (small dairy processors)

Producers of high value meat mainly selling to an abattoir or butcher who is then wholesaling products on to retailers in and out of the County. There are a growing number of producers of quality meat beginning to use the services of abattoirs but going on to retail directly to consumers either through a farm shop or by mail order.

The same is true of small-scale dairy processors who make their own high quality ice-cream for retail at a farm shop or through a wholesaler.

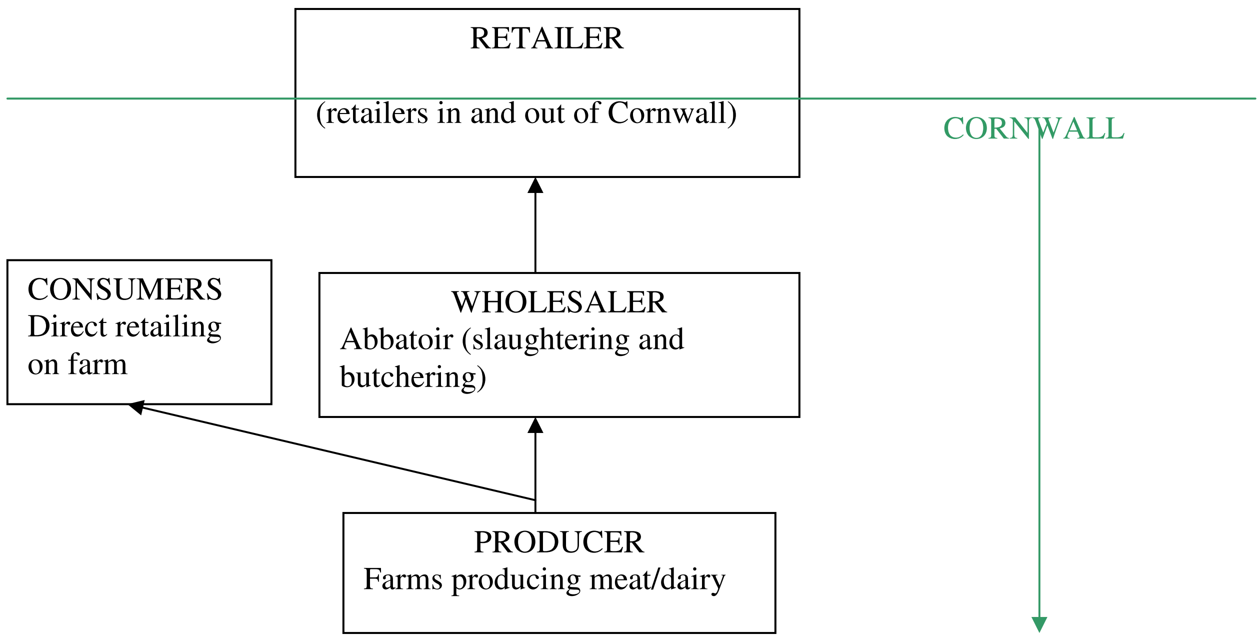


Diagram 1 - High value meat and/or dairy chain (small dairy processors)

Beef and lamb chain

This is the more usual route taken by meat to the market place with most producers selling either to the abattoirs or through a market. The mediating role of the abattoir is becoming increasingly important as they take on the role of market, wholesaler and, to a degree, the role of the merchants in the fish industry.

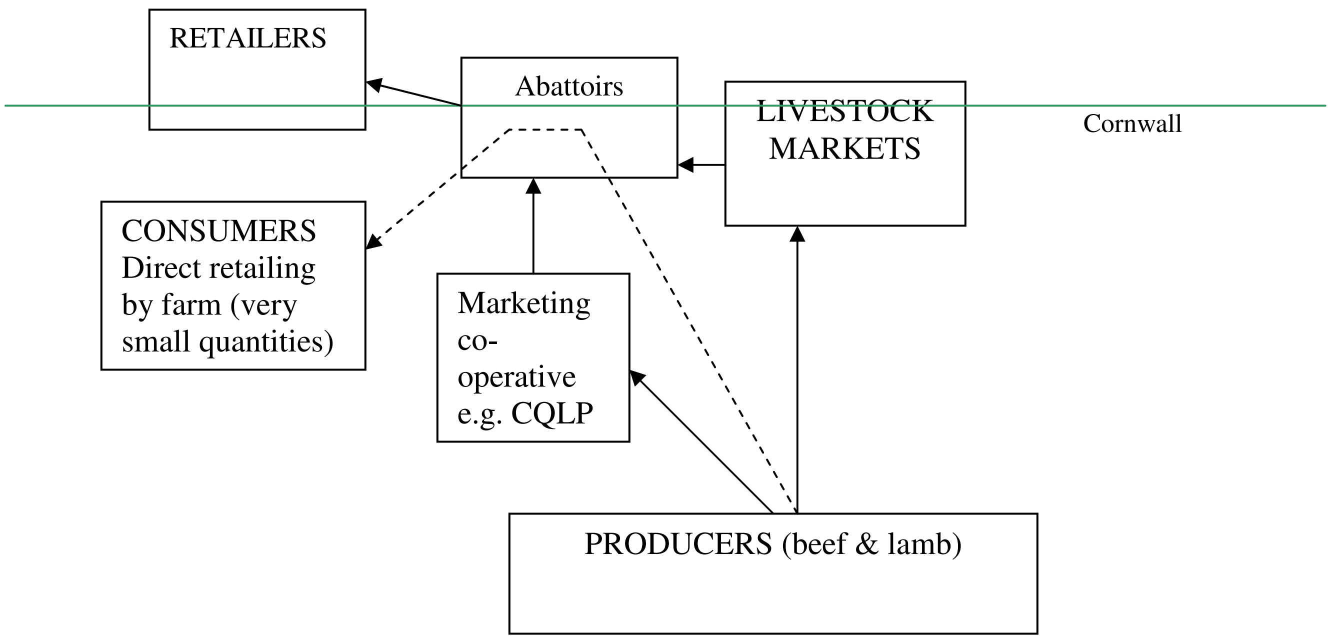


Diagram 2 - Beef and lamb chain

Dairy chain: cheese (2 models)

The dairy industry in Cornwall is a significant but highly concentrated industry with a few businesses and the milk is mainly used for cheese. The producers, dairy farms, are either selling directly to milk processors or through wholesalers. The cheese is made in Cornwall and then sold to wholesalers and distributors out of the County and then sold on to retailers.

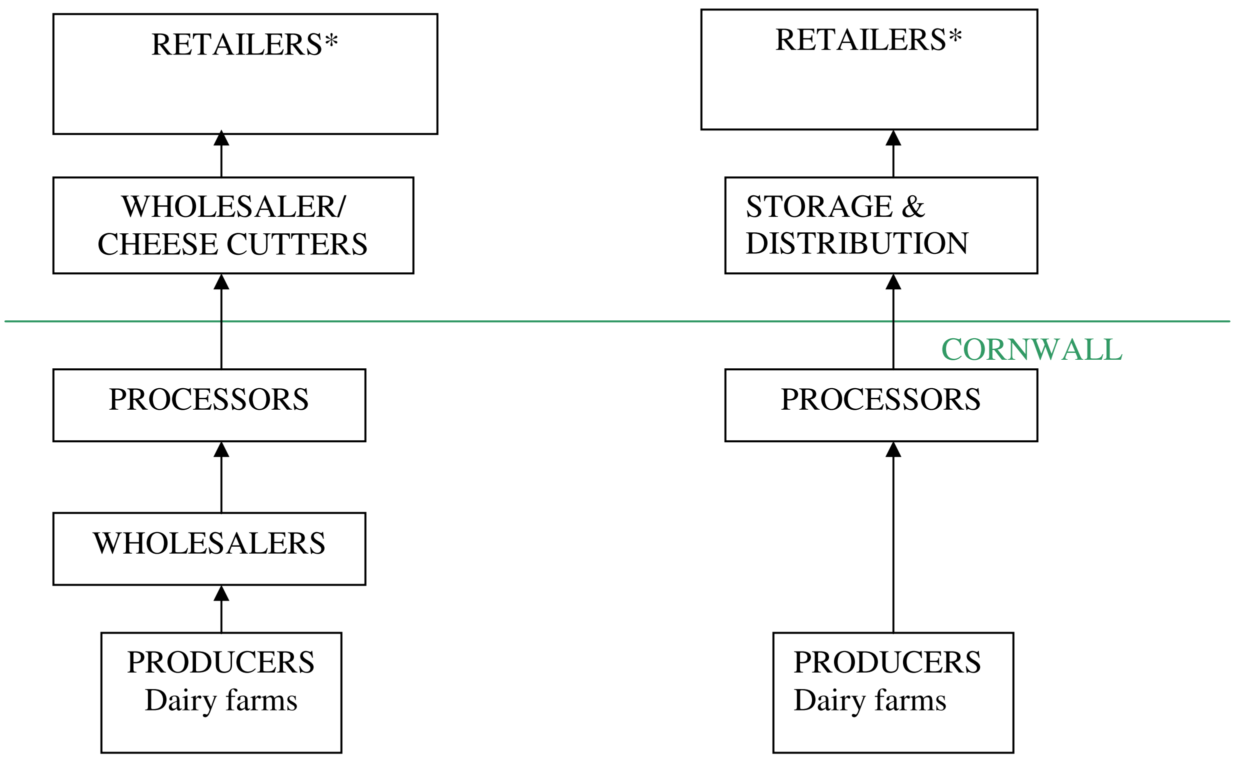


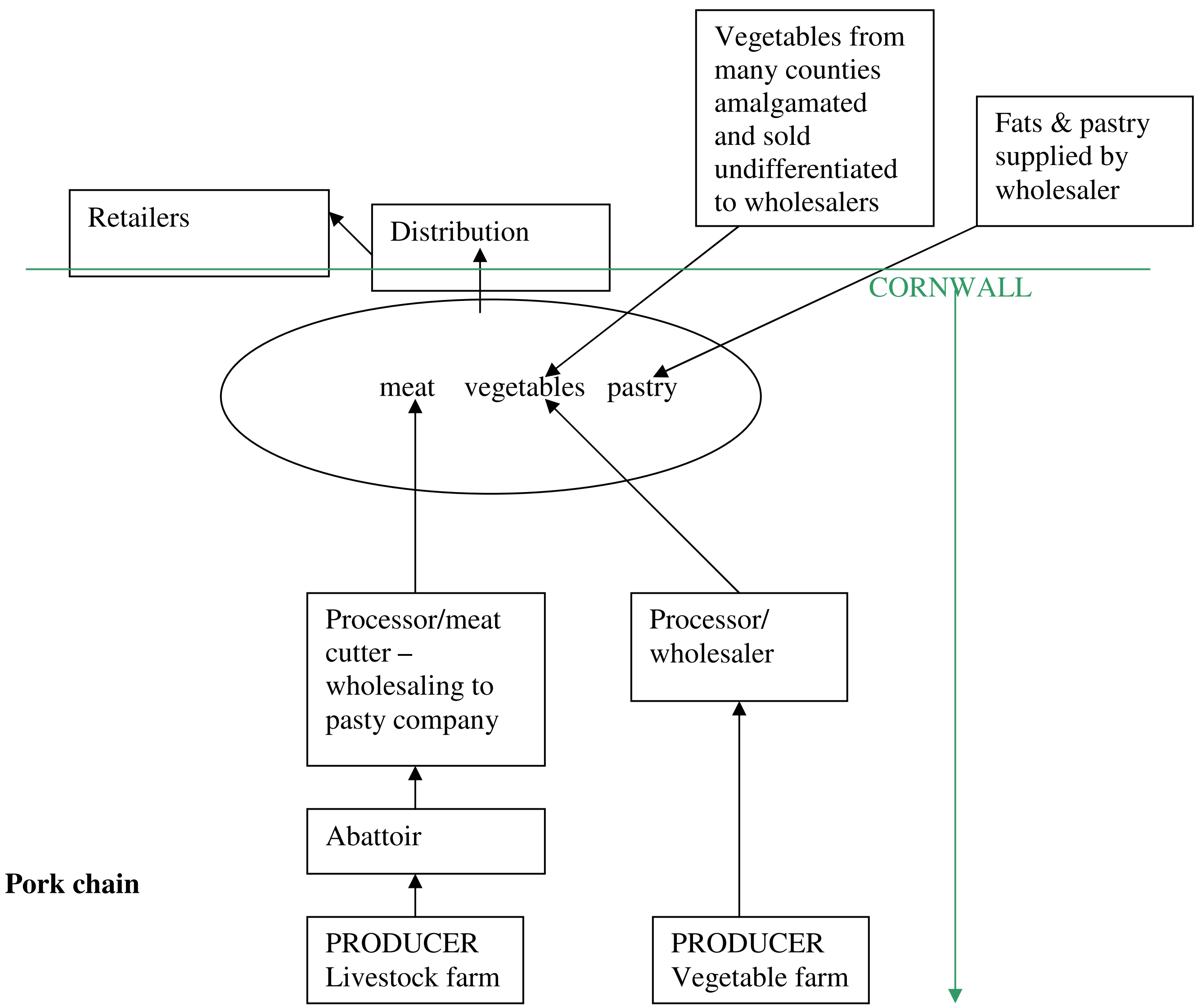
Diagram 3 - Dairy chain: cheese (2 models)
*Some produce returns to the County through multiple retailers

The Pasty chain: assembling a complex product/heavily processed good

The principal inputs to a Cornish Pasty are meat, vegetables, fats and pastry. There are many manufacturers of pasties in the County with varying degrees of 'localness' in their use of inputs. This example is a composite of the large scale manufacturing process, which make pasties for export out of the County.

Up to 80% of meat is Cornish produced and the rest of the inputs are sourced elsewhere. Significant volumes of vegetables are required and these are purchased in Bristol where many Cornish producers sell their vegetables so Cornish vegetables may be used. Cornwall based meat and vegetable processors then supply the pasty manufacturing company with prepared inputs. The finished pasty is then distributed out of the County and sold on to retailers.

Diagram 4 - The Pasty chain



The pork chain is very short and distinctive in that abattoirs dealing with pork have evolved to take on the role of processing and wholesaling pork. Cornish pig production is in long-term decline and most pork produced is sold out of the County to processors and retailers based elsewhere in the UK.

Pig production and distribution chain

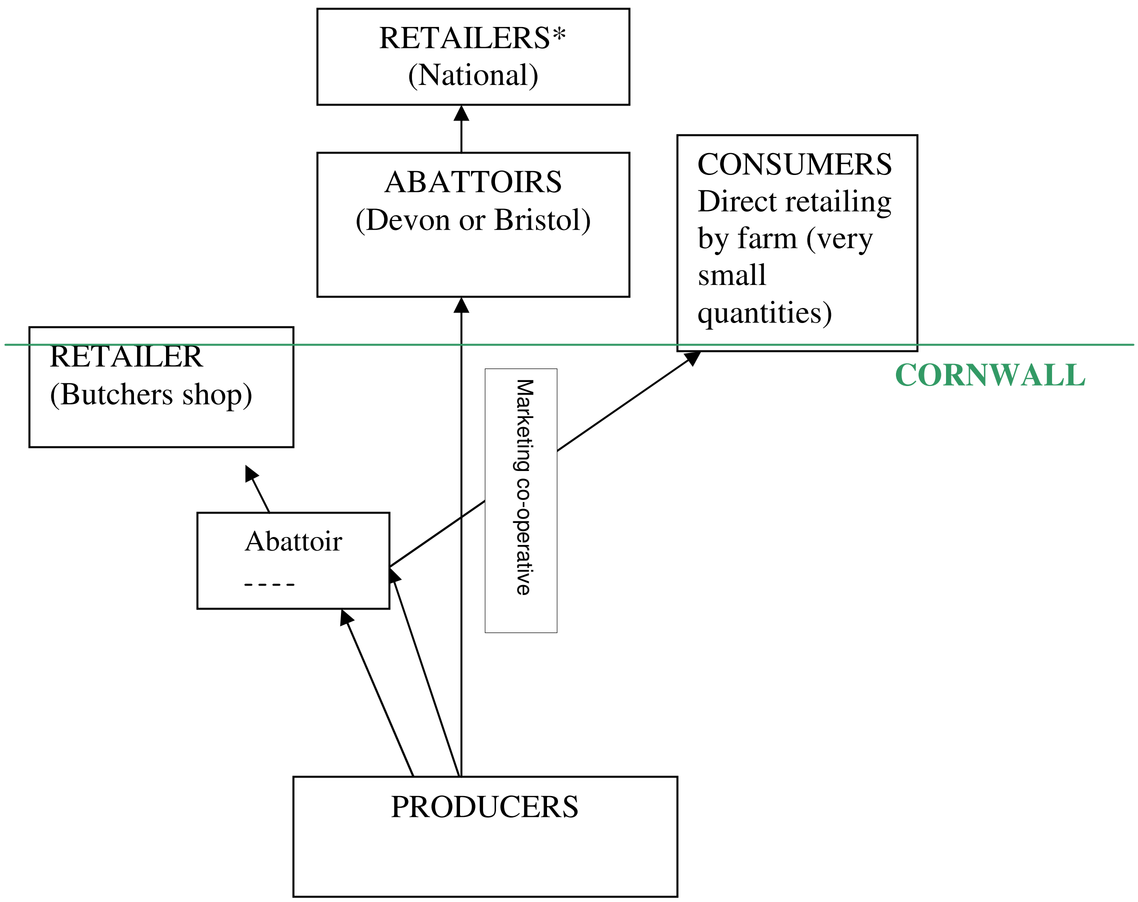


Diagram 5 - Pork chain
*Some produce returns to the County through multiple retailers.

Confectionery and Fruit and Vegetables Chain

Both the confectionery and fruit and vegetable chains are marked by the lack of Cornish inputs. The businesses are based in Cornwall and may use limited local produce when available but rely on inputs from international, European and UK markets. The only inputs produced in Cornwall relevant to these sectors are milk and some fruit and vegetables. In the main milk produced in Cornwall is either used for fresh consumption or cheese production, and Cornwall produced fruit and vegetables are used where possible (availability, quality and price). Therefore, this chain is determined by a lack of availability of inputs (sugar, processed milk products), and volumes of sufficient quality/competitively priced (fruit and vegetables).

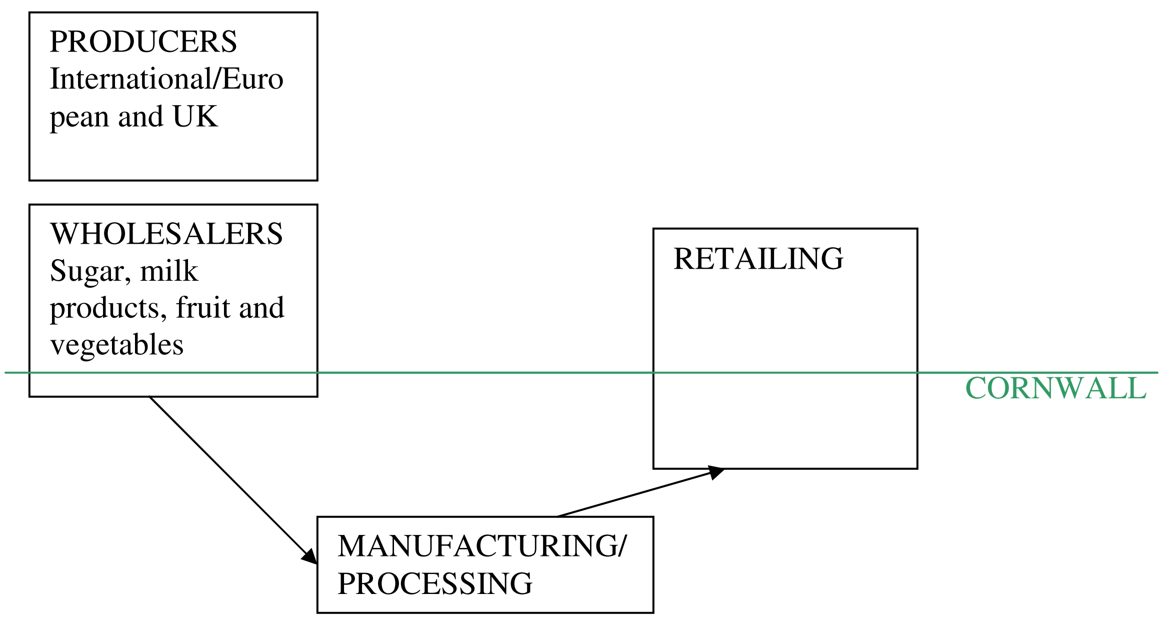


Diagram 6 - Confectionery and Fruit and Vegetables Chain

Organic chain: 3 models used in combination by producers
The organic meat and vegetable chain is markedly different to other sectors because of the certifying role of the Soil Association. Having gone through certification producers go on to sell either directly to consumers, wholesalers (some buying specifically for supermarkets) or processors.

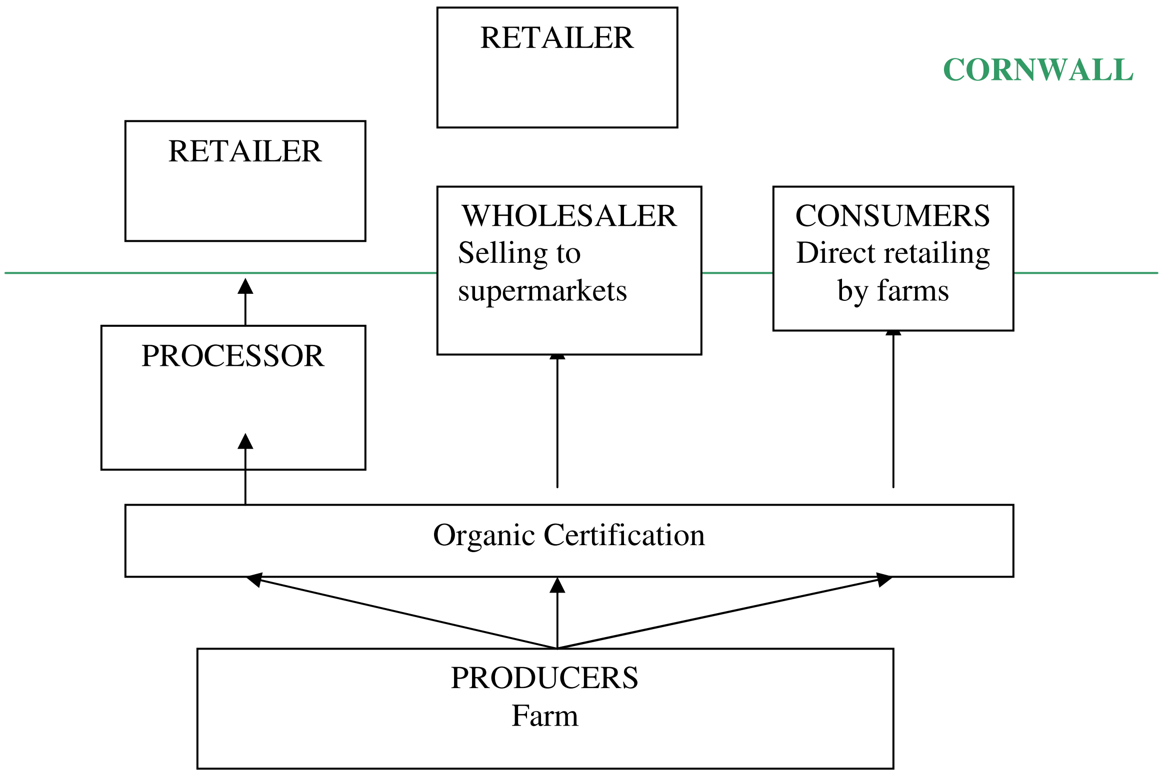


Diagram 6 - Organic chain: 3 models used in combination by producers**.**

Section 5

Appendices

Appendix 1 – Businesses consulted Summary of questionnaire results – in order of turnover size

This section has been removed to protect confidentiality.

Appendix 2

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Appendix 3 - Background data to the Cornish Food Economy

The purpose of this appendix is to provide background data to the information provided in the main report. It is not intended to be read in isolation but rather to refer back to the main report and to provide some explanations.

English Comparison and Ratio

These tables see for example Table 7 – Potatoes and Cash Roots, use the DEFRA June Census to establish the levels of production in England and the County. In the third column Cornish production is expressed as a percentage of the total production in England. Column four describes the same information as a ratio where national production is expressed as 1.

Household Consumption, South West region and UK

These statistics (see table 34 below) are the background to the tables in the main report, which calculate how much of any particular food is consumed in the County (see for example table 15 – Cornish beef supply and use). Rather than just assume that the people of Cornwall consume meat at the UK average we have established the variation of the South-west from the national average and taken that as the basis of the calculations.

The actual co-efficient used in these calculations was specially prepared by the Meat and Livestock Industry strategy consultation and adapted by the Centre for Rural Research for this project.

- The general trends in table 1 show that consumers in the South West are fonder of beef, vegetables and edible fats than the national average, but buy less un-cooked poultry and processed vegetables.

- These trends can also usefully be compared to the findings in Cornwall Taste of West's Review of the UK Food Market.

Table 34 - Household Consumption, South West region and UK, 2000

		South West Region*	All UK Households[$]	South West vs. all UK
		grams per person per week unless otherwise stated		
Milk and cream (ml† or eq ml)		2133	2081	2%
	of which: wholemilk(ml)	661	665	-1%
	skimmed milks (ml)	1177	1138	3%
	Cheese	110	110	0%
Carcase meat		259	246	5%
	of which: beef and veal	141	124	14%
	mutton and lamb	53	55	-4%
	pork	65	68	-4%
Other meat and meat products		706	720	-2%
	of which: Bacon and ham, uncooked	78	71	10%
	Bacon and ham cooked, inc canned	43	41	5%
	Poultry, uncooked	193	214	-10%
	Poultry, cooked, not canned	37	39	-5%
Fish		142	143	-1%
Eggs (number)		1.62	1.75	-7%
Fats and oils		193	186	4%
	of which: Butter	44	39	13%
	Margarine	23	21	10%
	Low fat spreads	23	20	15%
	Reduced fat spreads	47	48	-2%
Sugar and preserves		152	139	9%
Vegetables				
	of which:	2101	1986	6%
	fresh potatoes	771	707	9%
	fresh green vegetables	266	240	11%
	other fresh vegetables	551	492	12%
	processed potatoes	185	202	-8%
	other processed vegetables	328	345	-5%

† million litres

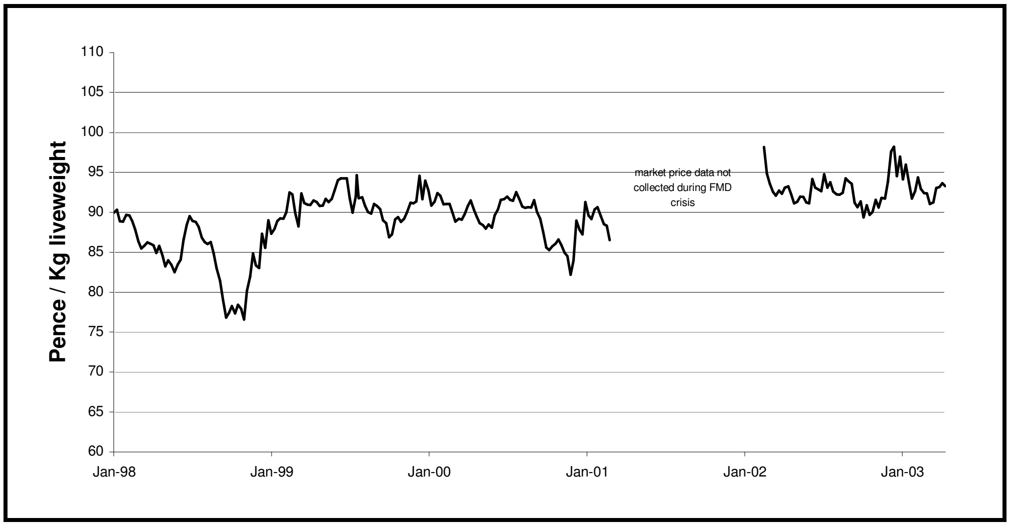
	South West Region	All UK Households	South West vs. all UK
	grams per person per week unless otherwise stated		
Fresh fruit and fruit products	1177	1120	5%
of which:			
fresh fruit	794	745	7%
fruit juices(ml)	296	303	-2%
Cereals	1447	1508	-4%
of which:			
bread	669	720	-7%
cakes and pastries	106	89	19%
buns, scones and teacakes	43	43	0%
biscuits	151	141	7%
cereal convenience foods	182	194	-6%
breakfast cereals	147	143	3%
Beverages	60	58	3%
of which:			
tea	35	34	3%
soft drinks	1538	1523	1%
alcoholic drinks	402	435	-8%
Confectionery	71	64	11%

* 1404 respondents in the South West
$ 14584 respondents in the UK

Beef

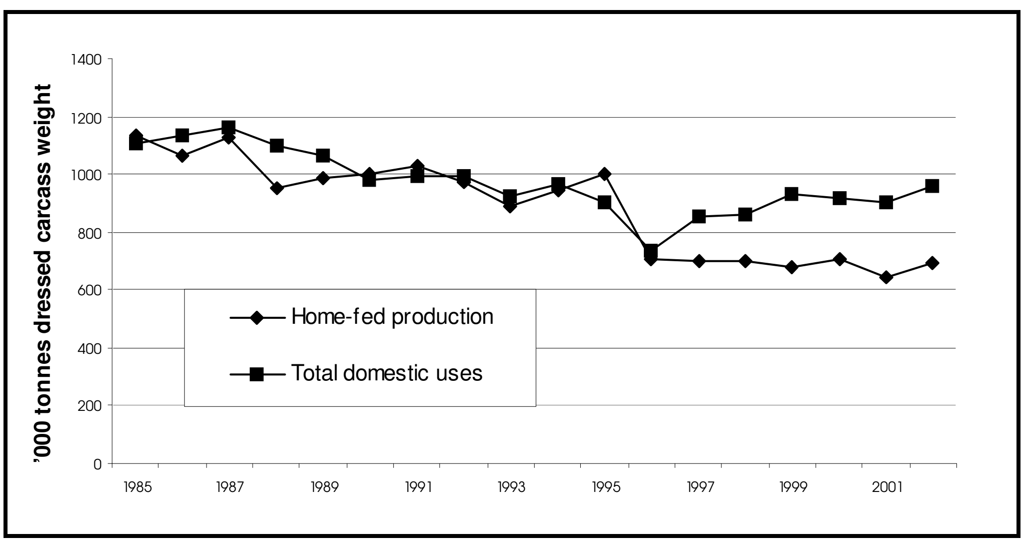
The following figures 9 and 10 show the trend in the price paid for beef after the immediate impact of the BSE crisis (figure 10) is slowly rising but as is shown in figure 11 the historic demand for beef is declining. As noted above there is a higher than national average demand for beef in the South West.

Figure 9 - UK Beef market prices 1998 to 2003



(Source – Centre for Rural Research 2003)

Figure 10 -UK Beef supply and use

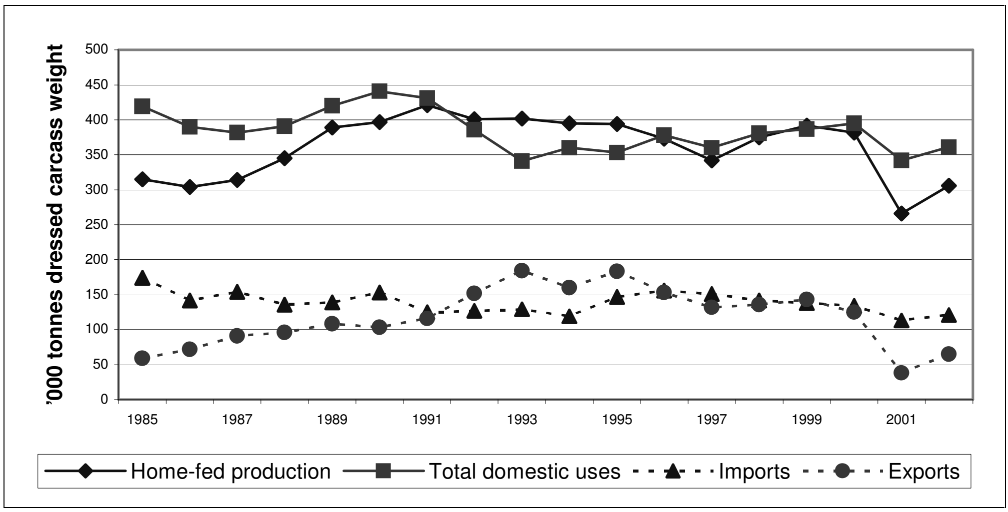


(Source – Centre for Rural Research 2003)

Lamb

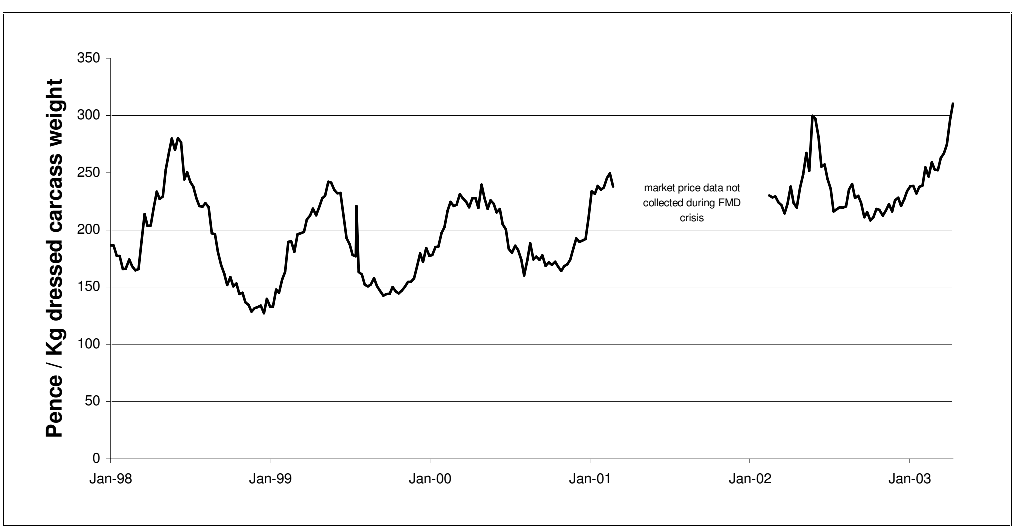
As can be seen from the two figures below (figures 12 and 13) there is a fluctuation in the demand and supply of lamb and mutton, with a complex inter-relationship between domestic supply and imports. There would appear to be a slight upward trend in the price of lamb although the effects of Foot and Mouth disease make this less clear than it might otherwise be.

Figure 11 - UK Lamb and mutton supply and use, 1985 to 2002



(Source – Centre for Rural Research 2003 from DEFRA data)

Figure 12 - UK finished lamb market prices 1998 to 2003

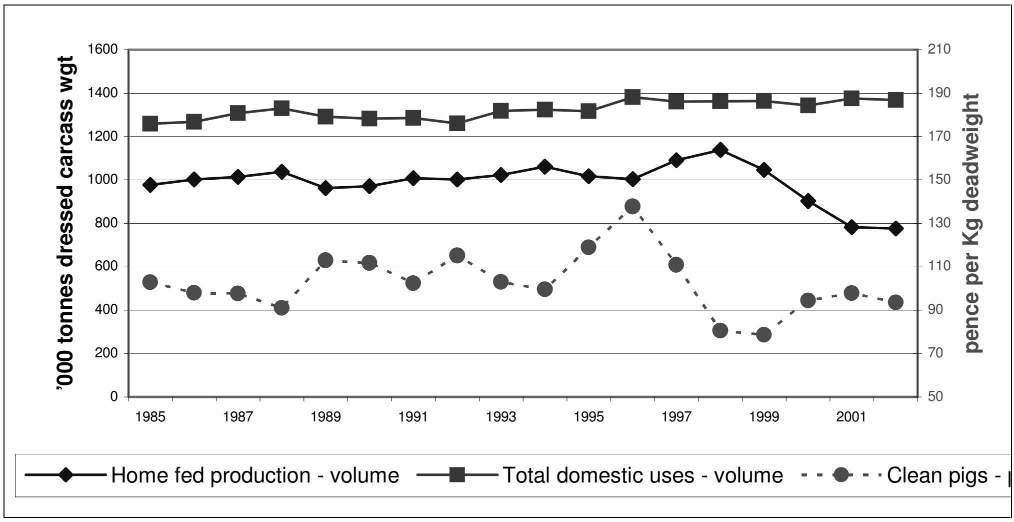


(Source – Centre for Rural Research 2003 from DEFRA data)

Pigs

The market for pigs is highly competitive with the last few years being some of the most competitive in modern times. There are high levels of supply and the price of pork has dropped sharply (figure 14) although there does appear to be a slight upward trend in prices for those pig businesses that have survived.

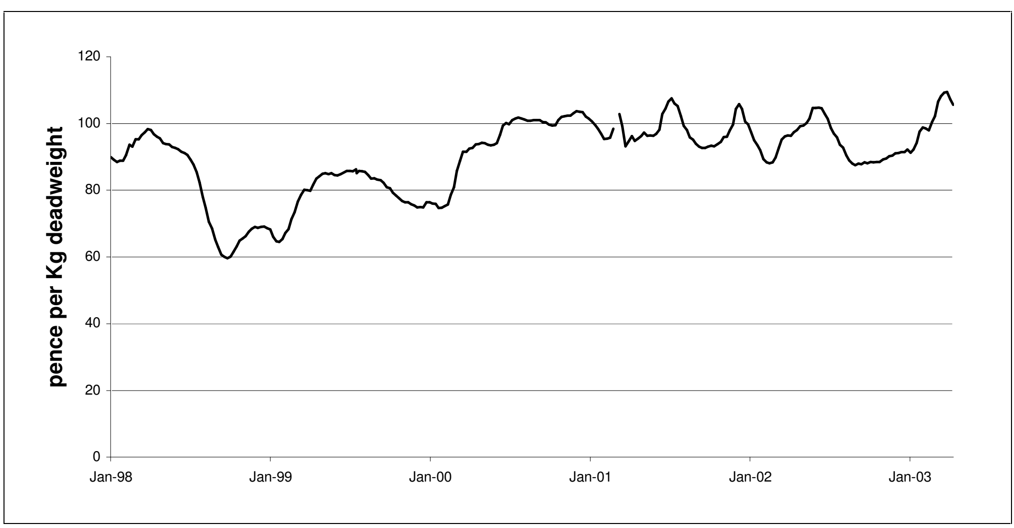
Figure 13 - UK pig meat supply and use, 1985 to 2002*



(Source – Centre for Rural Research 2003 from DEFRA data)

*Published pig meat supply figures usually separate 'pork' from 'bacon and ham' and include in the latter imports which are cured in the UK. These home-cured imports have been excluded from the data in Figure#.

Figure 14 -UK weekly pig prices (all pigs), 1998 to 2003

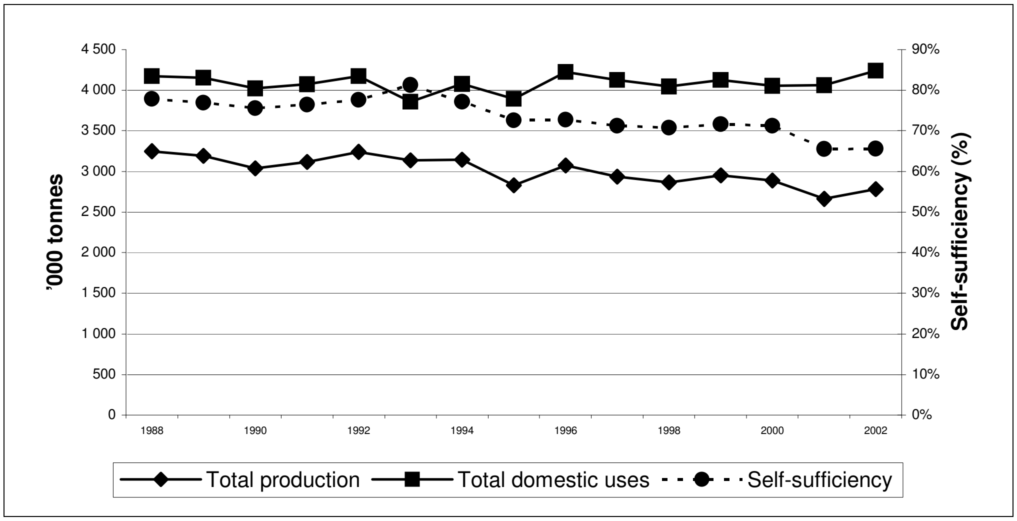


(Source – Centre for Rural Research 2003 from DEFRA data)

Other vegetables (other than potatoes)

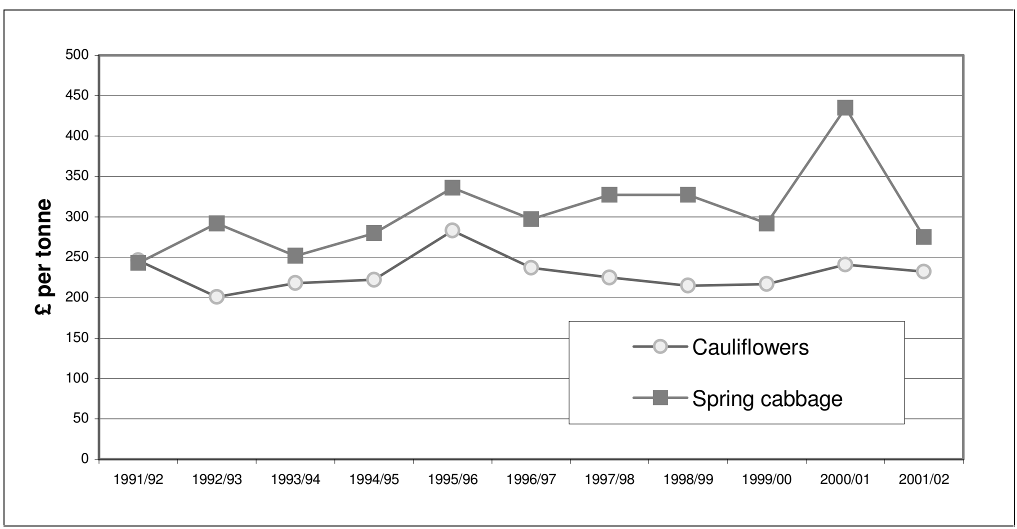
There appears to be strong and constant domestic demand for vegetables from Cornwall and the industry appears to have bucked the wider UK trends for a decline in domestic production.

Figure 15 - UK vegetable supply and use, 1988 to 2002



(Source – Centre for Rural Research 2003 from DEFRA data)

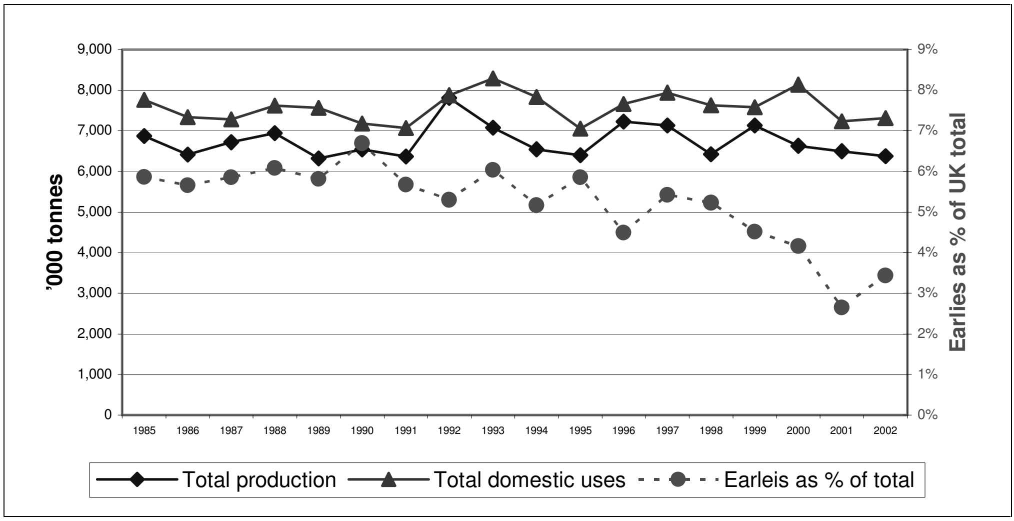
Figure 16 - UK cauliflower and spring cabbage prices, 1991/92 to 2001/02



Potatoes

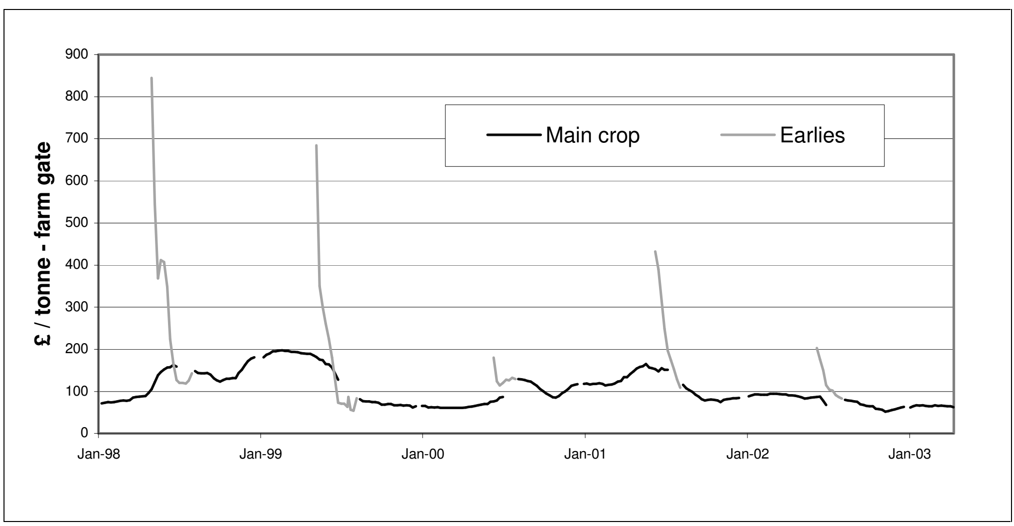
As the data demonstrate, the importance of early potatoes is generally declining, but as demonstrated in the main body of the report they remain particularly important in Cornwall. Figure 18 demonstrates the highly seasonal value of this crop and the importance of climate in producing it.

Figure 17 - UK potato supply and use, 1985 to 2002*



*Total domestic uses include seed for home crops and chats, waste and retained stockfeed totalling about 20%.

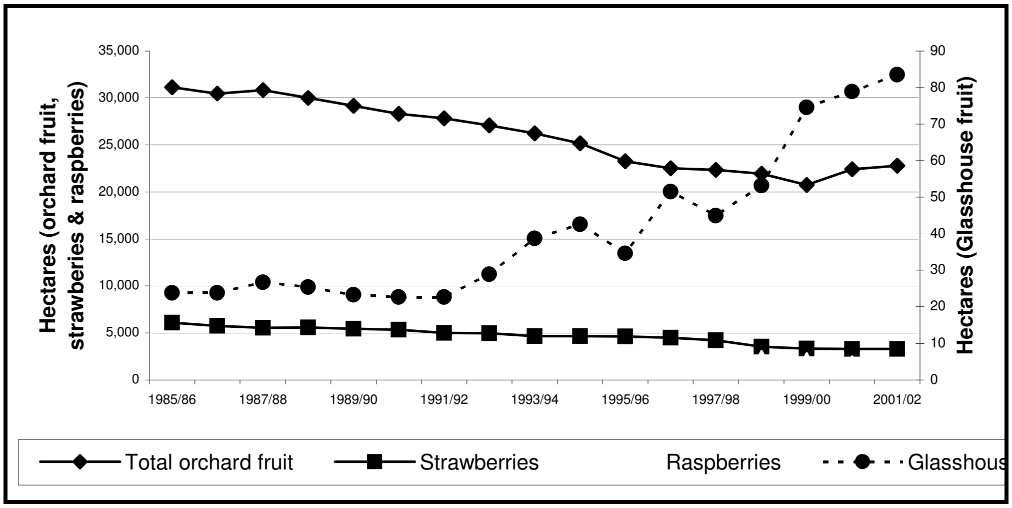
Figure 18 - UK weekly potato prices, 1998 to 2003



Fruit

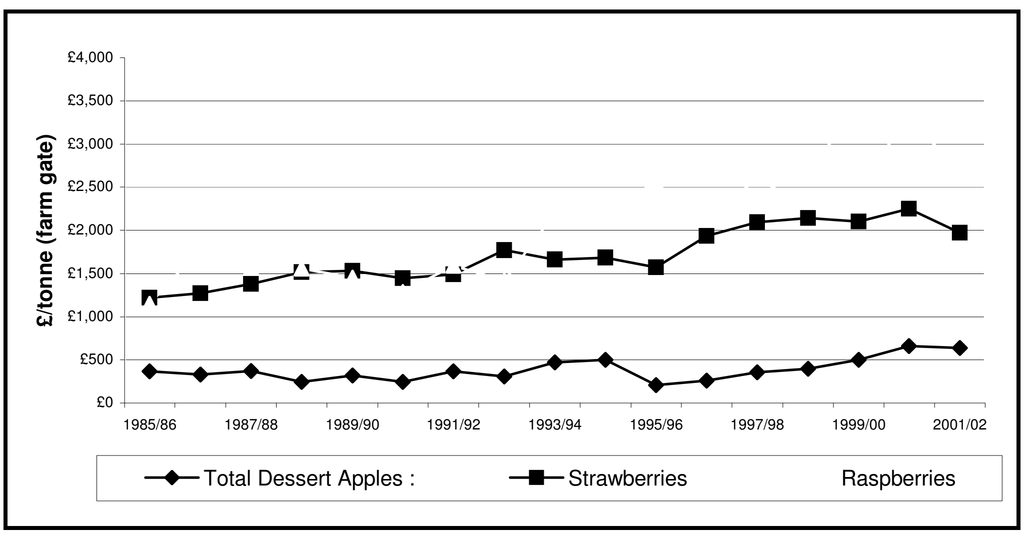
The decline in the national orchard was achieved far earlier in Cornwall due to its particular climate and it appears that Cornwall may have shared in the decline in berry production. Yet as shown in figure 12 the rise in the price of berries may represent an opportunity for Cornish fruit growers.

Figure 19 - UK Fruit areas - long-term



(Source – Centre for Rural Research 2003 from DEFRA data)

Figure 20 - UK fruit prices - long-term



(Source – Centre for Rural Research 2003 from DEFRA data)