The White Paper 2013

A guide to the UK Dairy Industry

Dairy UK

INDEX

The White Paper 2013 has chapters setting out key information for each element of the supply chain. Each section is then concluded with a personal statement by a key industry figure on the strengths of the industry in that particular area.

CHAPTER

Introduction 3

Chapter 1: Animal Health and Welfare 4

Chapter 2: Dairy Farmers 6

Chapter 3: Milk Collection 13

Chapter 4: Milk Purchasers and Processing 14

Chapter 5: Training and Skills 20

Chapter 6: Consumers and Marketing 22

Chapter 7: Dairy and Nutrition 28

Chapter 8: UK Dairy and the Environment 31

Chapter 9: World Dairy Trade and Future Prospects 37

Chapter 10: Dairy UK 43

COMMENTARY

The UK Dairy Industry and Cow Welfare by Tim Brigstocke,
Chairman of the Cattle Health and Welfare Group 5

UK Dairy Farmers by Tim Bennett,
Chairman of DairyCo 12

The British Milk Haulage Industry by Tim Hampton,
Quality Standards Manager, Arla Foods,
Chairman of the Dairy Transport Assurance Scheme 13

The UK Fresh Products Industry by Graeme Jack,
Corporate Communications Director Müller UK & Ireland Group,
Chairman of Dairy UK Communications Group 17

The Future of the UK Cheese Sector by Andy Smith,
Group Managing Director at Lactalis McLelland,
Chair of Dairy UK Cheese Group 19

The UK Dairy Industry and Skills and Training by David Cotton,
Chairman of Dairy Pro 21

The UK Dairy Industry and Product Marketing by Sandy Wilkie,
Sales and Marketing Director of Müller Wiseman Dairies,
Chairman of the Milk Marketing Forum 27

UK Dairy Foods by Dr Judith Bryans BSc PhD RNutr,
Director, The Dairy Council 30

The Dairy Roadmap by Kate Allum.
Chief Executive of First Milk,
Chair of the Dairy Roadmap 36

The UK Dairy Industry and Exports by Paul Vernon,
Chief Executive, Glanbia Cheese,
Chairman of Dairy UK Northern Ireland. 42

Proud
of Dairy

INTRODUCTION

The 2013 edition of The White Paper records an industry set to exploit the opportunities of the future.

We have moved forward from the traumas of the summer of 2012, with new transparent pricing systems, better, more collaborative supply chain relationships, and a stronger drive to profitable growth.

This report shows clear evidence of further progress in our attention to animal welfare, the environment, and food safety - all of which are vital to underpinning the value of our products to consumers. We are enhancing this with a renewed focus on marketing. A range of innovative campaigns during the year has ensured that our products remain as popular with consumers as ever.

Our industry has continued to improve its competitiveness - a combination of new capital investment by dairy processors, further rationalisation of processing capacity, and a comprehensive range of new education resources for farmers targeting cost efficiency. Our ability to drive more competitiveness into our businesses will determine our ability to grow.

All in all, this report depicts an industry to be proud of. The challenges of the weather, disease, input costs and volatile markets remain with us as this report goes to press. But rising prices on the back of stronger international demand has lifted the spirits and looks set to do so for most of the year.

So optimism, backed by encouraging long term forecasts for rising global demand, is not misplaced on this occasion. We must exploit these opportunities to the full. We are well set to win our share.

The White Paper 2013 again provides the key information about the UK dairy industry. It combines statistics with commentary which provides explanation and perspective. It has been extended this year to provide electronic links to other organisations - making it an invaluable and comprehensive reference source.

It has been compiled by the team at Dairy UK. I want to thank them once again for the quality of this document.

Billy Keane
Chairman, Dairy UK

ANIMAL HEALTH AND WELFARE

The UK dairy industry takes the health and welfare of dairy cows and related stock extremely seriously. The industry has a variety of initiatives underway to maintain and improve standards that are overseen by an overarching strategy. Substantive changes are being achieved at the farm level and the industry can be confident that tackling animal health and welfare is one of its defining characteristics.

Farm Assurance

Dairy farmers have a vested interest in maintaining the health and welfare of their dairy cows. There are powerful moral as well as economic reasons for keeping livestock healthy and productive for as long as possible.

In order to ensure dairy farmers meet benchmark standards of animal welfare and product quality, the industry has introduced The Red Tractor Farm Assurance Dairy Scheme (www.redtractor.org). The scheme is part of Assured Food Standards (AFS), and is overseen by a board nominated by Dairy UK, the NFU, the British Cattle Veterinary Association, the Scottish Board of Dairy UK and the British Retail Consortium.

These farm assurance standards set a high bar for animal health so that consumers can be confident that their milk and dairy products are produced responsibly and respectfully. Under the scheme, farms are inspected every 18 months and the quality of the assessor is further verified by a system of random audits.

The scheme currently covers 64 milk purchasers and, at the last count, 11,012 milk producers and the 11.1 billion litres of milk that they produce.

From October 2013, the scheme will be introducing new outcome-based standards to give much greater emphasis on evaluating the well-being of dairy herds against objective criteria. This is part of an overall process of continual evolution of the scheme's standards and procedures.

Under the EU Hygiene Regulation, the FSA is required to inspect dairy farms. But, because of the robustness of our farm assurance scheme, dairy farms in England, Wales and Northern Ireland have had the frequency of inspection by the FSA reduced from once a year to once every 10 years, in recognition of the lower level of risk associated with farms complying with the farm assurance scheme.

The future development of welfare standards for dairy cows is set out in the industry's Dairy Cow Welfare Strategy which has been jointly developed by the National Farmers' Union in conjunction with DairyCo, the Royal Association of British Dairy Farmers, British Veterinary Association, British Cattle Veterinary Association and Dairy UK. The strategy, which is overseen by the Cattle Health and Welfare Group, requires a number of actions including the future evolution of farm assurance towards more outcome based standards.

The farm assurance scheme has been supplemented by an industry assurance scheme for the transport of raw milk and milk fractions called DTAS (Dairy Transport Assurance Scheme). This scheme was developed by Dairy UK members and formally launched in April 2011. In conjunction with BRC standards used for the inspection of dairy processing plants, the overwhelming majority of dairy production is now covered by assurance schemes from farm to factory gate.

Production Systems and Cow Welfare

There are a range of different farm systems available for producing milk. They run from small scale, extensive units where animals are exclusively grazed, to more intensive units, where cows may be housed for all or part of their lactation. A farmer's choice of system will depend upon the resources and space available on the farm, the characteristics of the milk required by the purchaser and the capital available.

The choice of system is the farmer's, but whether the unit is large or small, fully grazed or indoor, animal health and welfare are key concerns.

All available research indicates that good husbandry, not farming system or scale of operation, determines animal health and welfare. Good stockmanship, farm management and adherence to farm assurance standards, can ensure that cows are well kept in any system. In order to prosper, the industry must be given the opportunity to examine the potential of large scale production systems and be able to invest in them.

Commentary: The Dairy Industry and Cow Welfare

Tim Brigstocke, Chairman of the Cattle Health and Welfare Group

The dairy industry is moving forward positively on the animal health and welfare agenda. The dairy industry has a coherent strategy for addressing these issues, overseen by the Cattle Health and Welfare Group (CHAWG).

This body, funded by the Levy Boards EBLEX (www.eblex.org.uk) and DairyCo (www.dairyco.org.uk), is a collective of industry organisations that voluntarily comes together to share information and collaborate in the coordination of dairy and beef health and welfare related activities.

In 2009 CHAWG took on ownership of the dairy industry's Dairy Cow Welfare Strategy and now reports annually on progress against the self imposed targets. Past reviews clearly demonstrate that the industry is moving in the right direction; as an example of this:

- some 55% of the 'selection' criteria used by farmers to determine breeding are now dedicated to health and welfare related 'traits' as opposed to the previous focus on yields
- 26% of DairyCo research funds are now dedicated to dairy cow welfare related activities

The industry has many impressive health and welfare programmes in place, first and foremost being the Red Tractor Farm Assurance Dairy Scheme, which independently inspects all farms regularly. The scheme includes just under 11,000 farms across Great Britain and 95% of GB milk production is from assured farms. The scheme sets benchmark standards for animal welfare and product safety and it is now starting the process of incorporating outcome based standards into its operation.

The role of CHAWG is to provide coordination to these efforts to ensure maximum value from each whilst not duplicating or restricting individual operations.

Through these efforts the dairy industry is confident of its assertion that addressing animal health and welfare is one of its key defining characteristics.

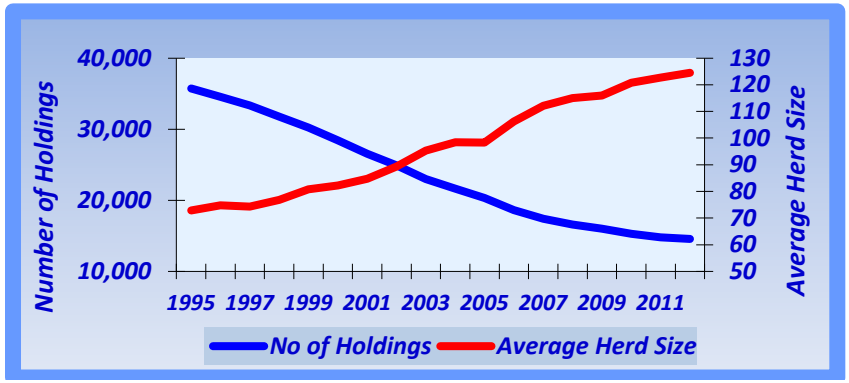
DAIRY FARMERS

UK dairy farmers are professional, dedicated and efficient. UK dairy farming is internationally competitive with considerable latent capacity for growth. This puts the industry in a strong position to exploit growing export opportunities and to make a major contribution to global food security. Dairy farming is restructuring and relocating to optimise efficiency. In response to the globalised price environment, the industry has developed unique contractual relationships. The industry's Voluntary Code of Best Practice on Contractual Relationships will further deepen opportunities for supply chain co-operation. The strength of UK dairy farming is the UK dairy industry's foundation for the future.

Dairy Farmer Numbers

UK Dairy farming is undergoing a sustained process of restructuring. The number of dairy farms in the UK has been declining at an average rate of 4% over the past ten years, with particular deceleration seen in England. The number of animals in the national herd has been falling, but has been offset as the average milk yield per cow in the UK has been rising. The average farm size has also been rising.

Graph 1 *– National Herd Size and Number of Holdings (new series from 2006)*



Source: Defra, DairyCo

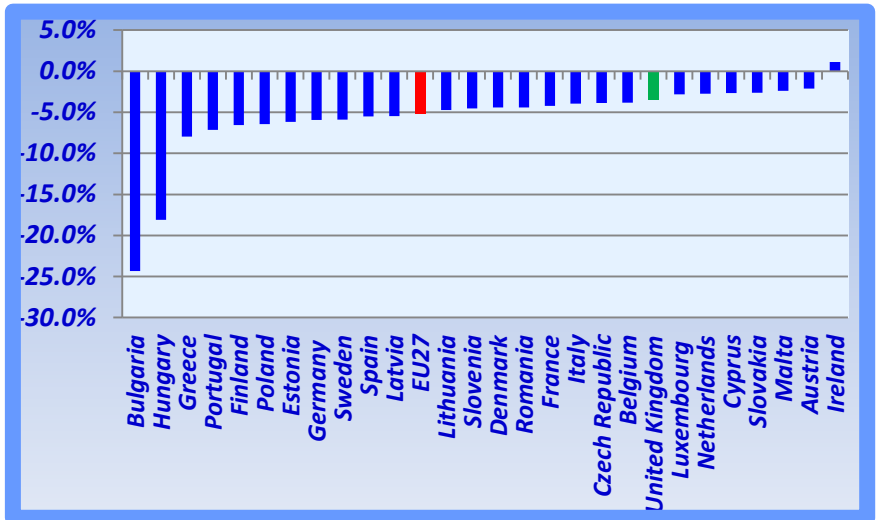
Table 1 *- Average Herd Size in the UK*

	Holdings	Dairy Herd (000 Head)	Average Herd Size
2007	17,427	1,954	112
2008	16,592	1,909	115
2009	16,008	1,857	116
2010	15,300	1,847	121
2011	14,793	1,814	123
2012	14,549	1,812	125

Source: Defra, DairyCo

The trend towards fewer, larger farms is almost universal throughout the developed world, but the rate of exit in the UK (-3.44%) is low compared to the EU27 average (-5.13%).

Graph 2 – % *Decline in EU Producer Numbers (2010/11 to 2011/12)*

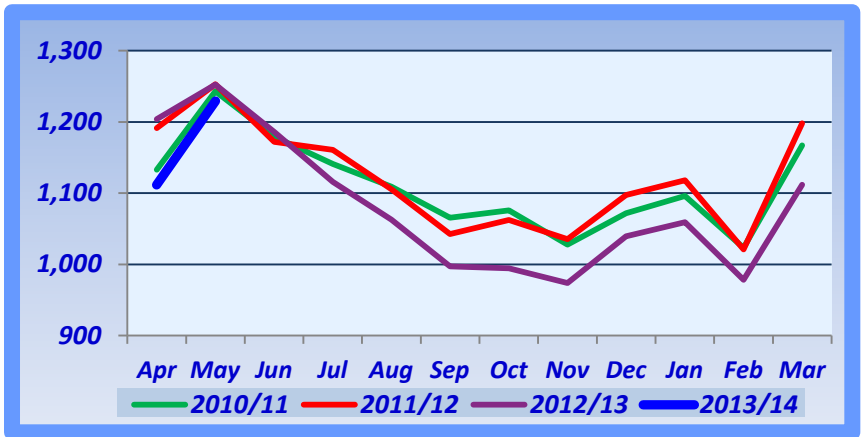


Source: European Commission

Milk Output

Milk production was on a rising trend from 2009 to 2011, but poor weather throughout 2012 affected output: production fell by 5.2% between July 2012 and March 2013 compared to the previous year. However, we are starting to see signs of recovery; milk production in May was only 1.8% lower than a year ago.

Graph 3 *– UK Wholesale Milk Deliveries (million litres)*



Source: Rural Payments Agency

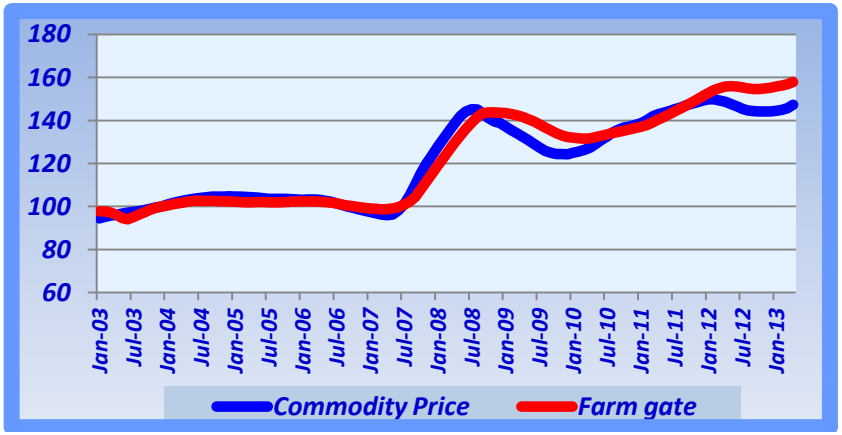
Farmer confidence, which is a key determinant of milk production trends, is linked to milk prices and margins. Findings from the 2013 DairyCo Farmer Intentions Survey (www.dairyco.org.uk/resources-library) indicated an overall drop in confidence compared to last year, not surprising given the fact that 2012 was the second wettest year on record. However, dairy farmers in Britain showed confidence in their prospects over the next 12 months, with 43% of respondents returning scores of 4 (extremely confident) or 5 (very confident), giving an average score of 3.21 on a scale of 1 to 5. For the medium term confidence scores rose to 3.25 for their own farm business.

Milk Prices

The deregulation of the raw milk market means that prices are set by commercial negotiations between individuals, or groups of farmers, and milk buyers in a free and competitive market. This has given commodities a prominent role in the determination of milk prices, along with movements in the value of sterling. Commodity products such as butter, powder, and mild Cheddar generally set the underlying trend in the farm gate price of raw milk as most raw milk can be switched between different end uses.

When commodity prices fall, operators selling raw milk for commodities have an incentive to offer this milk into higher returning markets, so the price of raw milk used in other products then falls to remain competitive. Likewise, when commodity prices rise, milk buyers have to raise the premiums they pay over commodity milk in order to secure their supply of milk. The inherent volatility of milk supply means that commodity prices are cyclical. Short-term price cycles can mask the long term price trends upon which the industry needs to base investment decisions.

Graph 4 *– Farm Gate Price versus Commodity Price (Butter/SMP/Mild Cheddar) – Moving Annual Mean*

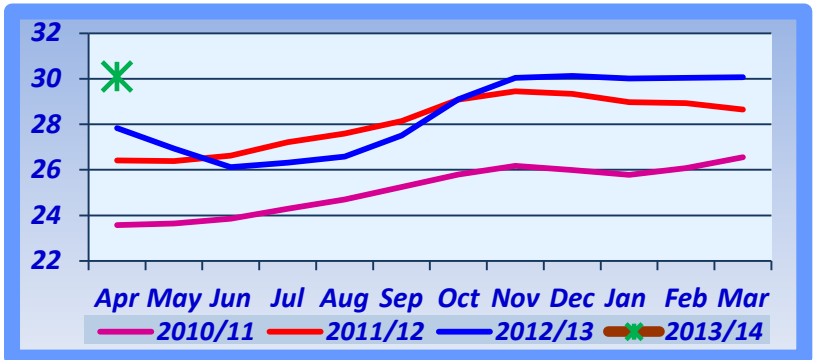


Source: Dairy UK

Current Milk Prices

Currently prices, as of June 2013, are on a steady upward trend due to relative shortfalls in milk production in the major exporting regions of the world.

Graph 5 *– UK farm gate price (pence per litre)*



Source: Defra

Contractual Arrangements in the Dairy Industry

Contractual relationships in the UK dairy industry are highly developed and, in many ways, unique across the world.

Voluntary Code of Practice

In September 2012 the industry agreed the Dairy Industry Voluntary Code of Best Practice on Contractual Relationships. The Code was developed in order to resolve the industry debate on the equity of contractual relationships and as an alternative to the regulation of contracts.

The Code has been very successful. Adoption of the Code is entirely voluntary but to date milk purchasers accounting for up to 85% of UK milk supply have decided to subscribe to the Code. For details of the Code and information on the dairies committed to its implementation go to www.dairyuk.org .

In summary, the Code gives dairy farmers:

- thirty days notice of any price change.
- a non-exclusive contract if they want to expand their businesses when the purchaser did not want to take the additional milk.
- a choice of different price mechanisms that they could choose from when the purchaser is obtaining milk from more than 250 farmers
- the opportunity to terminate their relationship with their purchasers early on payment of a penalty.
- automatic release from insolvent purchasers.
- no retrospective price changes.

On top of this, the Code specifies for non-co-op milk purchasers that:

- Producers may resign on three months' notice following any change to the headline price (up or down), price adjustment, or any aspect of the contract that has a significant commercial implication to the producer. This is supplemented by the further opportunity for producers and purchasers to agree a longer notice period, but only by mutual agreement through a process of negotiation.
- They should put in place a mechanism to engage in dialogue with their farmers or to consult with them on any price change.

The benefits to the industry of the Code include greater transparency and predictability in milk pricing arrangements, giving dairy farmers reassurance that their contracts are not putting them at a disadvantage in the marketplace and allowing ongoing relationships between dairy farmers and milk buyers based on open ended contracts that provide security to milk producers, whilst giving purchasers with the flexibility to respond to developments in the marketplace

The advent of the Code has also prompted purchasers to comprehensively review their milk pricing arrangements and this has led to significant innovation, particularly in the development of formulas to calculate price changes. To date two major purchasers have introduced contracts that give farmers the option of having a portion of their milk production priced according to a basket of measures that includes trends in commodity prices and farmer production costs.

Integrated Supply Arrangements

Over the past few years, several major retailers have put in place 'integrated supply arrangements'. In many respects these arrangements are unique to the British dairy industry.

Under these systems, a retailer obtains their supply of liquid milk exclusively from a specific group of farmers. The raw milk from these farms is processed under segregated arrangements and delivered to the retailer as liquid drinking milk.

Farmers generally receive a higher price under these arrangements, which vary from retailer to retailer (see table 6 below). As such, farmers on supermarket contracts are partially insulated from the price trends in commodity markets. However, in the long run, the retailer has to ensure that they are competitive with their counterparts at the retail price level.

In exchange for participating in integrated supply arrangements, farmers may be required to deliver different welfare requirements, meet particular environmental standards set by the retailer, or share detailed information on farm performance data.

Because of the volume of milk purchased by Tesco, the farm gate price set by this retailer is seen by many as setting a benchmark for the industry.

***Table 2** – Integrated Supply Chain Relationships for the Liquid Market*

Retailer	No of Farmers	Pricing System
Marks & Spencer	40	Formula taking account of costs and market returns
Waitrose	60	Negotiation taking account of capital investment requirements
Asda	250	Premium over processor standard prices shared over processor's total non- aligned supply pool
Sainsbury's	325	Quarterly review of key farm input costs
Co-op	350	Premium over processor standard price
Tesco	700	Formula taking account of costs and market return
Morrisons	-	Premium over processor standard prices shared over processor's total non- aligned supply pool

Source: Dairy UK

Financial Position

Despite recent challenges, UK dairy farmers are still profitable. In the year to February 2013 higher milk prices and increased prices for cull, store and finished cattle were offset by higher costs of the extra feed required to counteract the poor grazing conditions over the year caused by the bad weather, which has also had an impact on the quality of home produced forage. This has meant that after rising for the previous two years, farm income fell in 2012/13.

***Table 3** – Average Farm Business Income per Dairy Farm (£)*

	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
England	55,100	69,400	59,000[a]	66,000[a]	86,500[a]	50,000[a]
Wales	51,300	62,200	48,600[a]	56,800[a]	66,100[a]	52,400[a]
Scotland	69,600	78,400	58,900	72,600	80,200	n.a.
N.Ireland	58,700	37,500	19,900[a]	51,600[a]	58,100[a]	27,500[a]

[a] *New series*

Source: Defra

Efficiency

The diversity of farming systems and the range of efficiency being achieved was highlighted by DairyCo's second Milkbench+ report. Published in February 2013 (www.dairyco.org.uk/resources-library), this is their internet-based dairy farming benchmarking service that allows British dairy farmers to compare how their enterprise is performing against other dairy farms.

Analysis of Milkbench+ data from 315 farms identified three key enterprise types in the UK.

- Cows at grass: predominantly grass-based and operating at lower yield levels.
- Composite: maximum use of family labour and a mixed approach to feeding and housing.
- High-output cows: generally housed for more of the year with more intensive use of major inputs.

The report showed significant variation between the costs of the top performing 25% compared to the bottom 25% for all three production types.

Table 4 – *Analysis by Production System*

Difference between top and bottom 25% of farms (ppl) (based on net margin)	
Cows at grass	*10.5*
Composite	*12.8*
High-output cows	*10.1*

Source: DairyCo

This shows the significant latent potential for production increases available to the industry through improving efficiency.

The key findings from the analysis were:

- The key determinant of profit is total cost of production.
- Average yield per cow is not the main driver of profit.
- The right balance between input use and milk output (herd size and average yield) is essential for high net margin.
- Milk can be produced efficiently from any of the systems identified and at almost any scale of production.

The key conclusions drawn from the research by DairyCo are:

- There is no silver bullet which ensures profitability; cost control through effective management is the key.
- Achieving the most cost-effective performance levels in terms of milk yield and feed use and in the resulting total costs of production, requires regular recording, monitoring of performance and effective use of the resulting data.
- There is no ideal herd replacement rate, understanding the reasons for replacements are more important than the number. Realistic targets should be set as a part of strategic management of individual dairy enterprises.
- It is important to maintain a level of fixed costs appropriate to the level of output. Investment should be aimed at improving production efficiency and decreasing unit cost of production.

Restructuring and Efficiency

Once dairy farmers have maximised their efficiency for any given scale of production, dairy farmers needs the opportunity to expand their businesses to continue to improve efficiency through achieving economies of scale by spreading fixed costs over a larger scale of production. This means that there is a strong correlation between farm size and efficiency.

Table 5 – *Analysis of Efficiency by Herd Size*

Herd size (cows)	*<80*	*80-130*	*>130*
	Lowland Herds (£ per cow)		
Total Dairy Output	*1,671*	*1,982*	*2,099*
Total Variable Costs	*798*	*928*	*1,006*
Total Gross Margin	*873*	*1,054*	*1,093*

Source: "Farm Business Survey 2011/2012– Dairy Farming in England":

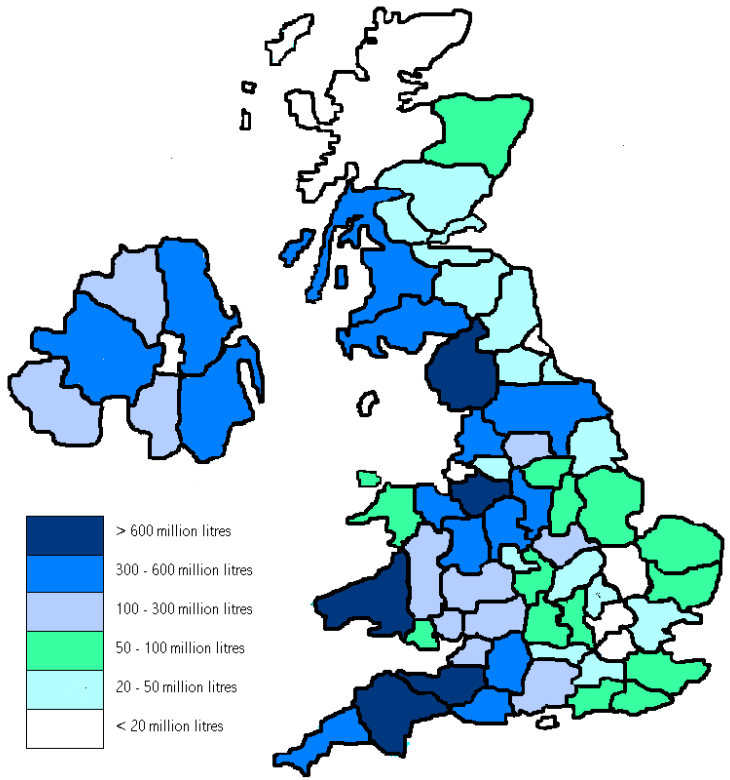
The data shows that the gross margin rises with farm size.

Geographical Distribution of Dairy Farmers

Production is becoming increasingly concentrated in the southwest and northwest of England, mainly Devon, Somerset, Cheshire and Cumbria. There is also a significant movement in volume from England to Wales, Scotland and Northern Ireland, indicating increasing production in these countries.

In the absence of regional production data, the best available indicator of the distribution of milk production remains figures on milk quotas held by farmers.

Figure 1 *– Map of UK Milk Quota 2011/12*

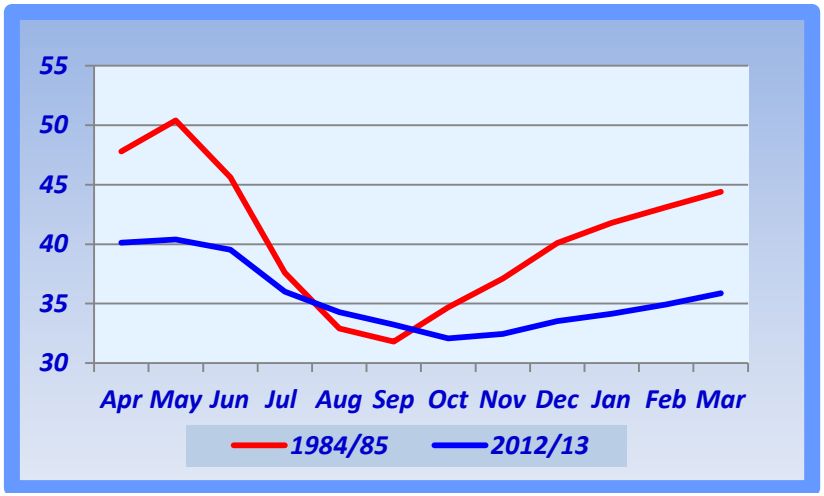


Source: Rural Payments Agency

Seasonality of Milk Production

Milk production follows a seasonal trend, with a traditional peak production in May after the calving season and a trough in October/November as grass becomes poorer. Weather conditions can have a big impact, and the level of butterfat and protein in milk also varies seasonally.

Graph 6 *– Seasonality of milk production (million litres per day)*



Source: Dairy UK

The seasonality of milk production has significantly improved since the 1980s, which reflects a sustained effort by the industry to incentivise a flatter profile of production. This reflects the importance of maintaining a continuous supply of milk for the UK fresh product markets, particularly liquid milk, which accounts for half of milk utilisation.

Commentary: UK Dairy Farmers

Tim Bennett, Chairman of DairyCo

British dairy farmers are competitive! Internationally we stand up well to comparison with leading dairy producing countries. DairyCo evidence from the Milkbench+ report and international benchmarking IFCN proves this unequivocally. The report tells us the main drivers of success are matching farm system to available resources and then managing the system really well.

Milkbench+ also tells us there is a big range in profitability between the best and worst performers regardless of system. The least profitable invariably have to control costs to improve the situation. Getting bigger before you have got profitable is not a solution that works!

Allied to profitability, what inspires dairy farmers to develop their businesses is confidence. That is farmer confidence in their business and confidence in the industry as a whole. The DairyCo Farmer Intention Survey has shown over the years that confidence does wax and wane depending on the potential industry outlook.

Improving on our international competitiveness and profitability won't happen just because GB dairy farmers are good; we will also need a vibrant supply side industry and top notch processing and marketing of dairy products to make it all come together.

Actually confidence is infectious! So, competitive and confident dairy farmers will encourage processor confidence to further invest, which should grow the industry to the benefit of all. With this mindset our competitive advantages of (wet) weather, land resources and human capital should start to make a dent in the volume of dairy products we currently import and after that make UK dairy a serious player in the export markets.

MILK COLLECTION

The UK milk collection industry is efficient, flexible and dynamic and committed to operating to the high professional standards demanded by the industry's assurance scheme for milk haulage.

Milk is collected from farms by milk hauliers using a fleet of approximately 1,300 vehicles driven by over 2,000 drivers.

Milk collection vehicles are typically operated by hauliers contracted by milk purchasers, but around 15% of the vehicle fleet is owned and operated by milk purchasers themselves.

The overwhelming majority of milk haulage operations are covered by the Dairy Transport Assurance Scheme, the industry's assurance scheme for milk transport. The scheme provides assurance to milk purchasers that the transport of raw milk and milk fractions meets food safety requirements, recognised industry good practice and specific customer needs.

The scheme is based on annual inspections of the milk haulage depots. The assessment is conducted against 56 standards covering haulage operations, vehicle hygiene, site and statutory requirements, HACCP, personnel and training, subcontractors and contingency procedures. The scheme is administered by Dairy UK and is overseen by a Management Committee drawn from major milk purchasers in the UK.

Membership of the scheme covers an estimated 80 to 90% of milk haulage capacity in the UK. Details of the scheme, along with all relevant documentation, can be found at www.dairytransport.co.uk.

Alongside the Red Tractor Farm Assurance Dairy Scheme for on-farm production and the British Retail Consortium standards for food processing, the DTAS scheme completes the proposition behind the Red Tractor Logo of farm to fork assurance of dairy production, processing and distribution.

Commentary: The British Milk Haulage Industry
Tim Hampton, Quality Standards Manager, Arla Foods
Chairman, Dairy Transport Assurance Scheme

The strength of the UK's milk collection arrangements derives from the professionalism and experience of an established population of haulier operators that have a long association with the dairy industry. This provides stability and continuity, whilst also giving flexibility and efficiency.

This capability is demonstrated by the diversity and complexity of milk collection arrangements that are successfully operated by the industry, which range from aligned milk pools to shared transport arrangements.

The commitment of hauliers to the safe and professional transport of milk is also demonstrated by the enthusiasm with which they have adopted the Dairy Transport Assurance Scheme. Hauliers are clearly proud of achieving and defending their certified status under the scheme.

Credit must also go to milk tanker drivers. Their job is complex and varied and the tanker driver is a key link in the milk quality chain. Milk purchasers and farmers rely on the tanker driver to take representative samples, collect the milk in the approved way and clean the farm vat after collection, whether it is day or night, and no matter what the weather conditions whilst always giving the absolute priority to safety. They demonstrate real loyalty and commitment to the industry during periods of extreme weather.

The strength of the milk haulage industry means that it has the capacity to meet and deliver on the challenges of tomorrow.

MILK PURCHASERS AND PROCESSING

Milk purchasing and processing in the UK is led by well-established, highly-invested, dynamic operations. UK processors have a successful track record in meeting the demands of some of the most exacting retailers in the world.

A significant international component in the ownership of processing capacity gives the industry a strong global dimension, and farm ownership of processing capacity is growing. The industry boasts particular strength in the efficient processing and distribution of liquid milk, and the variety and diversity of its cheese sector.

Industry Organisations

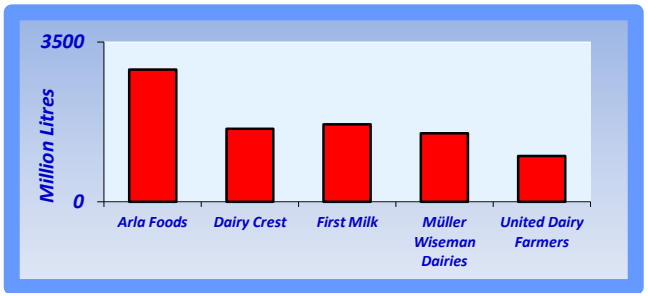
Five major organisations lead the UK dairy industry:

- Arla Foods, a European farmer owned co-op (www.arlafoods.co.uk)
- Dairy Crest, a public UK-based PLC (www.dairycrest.co.uk)
- First Milk, a UK-based dairy farming co-op (www.firstmilk.co.uk)
- Müller Wiseman Dairies, a German-based privately owned dairy company (www.muller-wiseman.co.uk)
- United Dairy Farmers, a UK-based dairy co-op (www.utdni.co.uk)

Milk Purchasers

A milk purchaser is an organisation that holds the contract with a farmer to purchase the milk produced from that farm. It can be a farmer co-operative, private dairy company or a PLC.

Graph 7 *– Volume of Milk by Purchaser (million litres)*



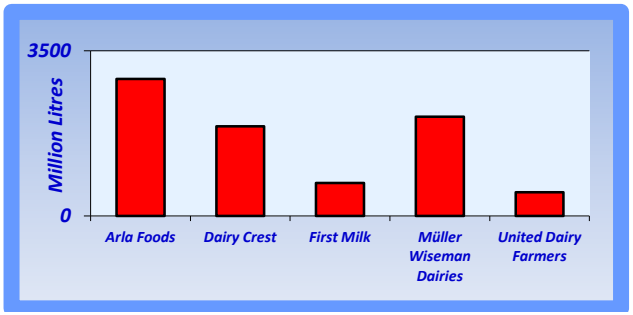
Source: Industry Figures and Dairy UK Estimates

Not all the milk bought from farmers is dealt with in processing operations owned by the purchaser. Consequently, a lot of the milk bought from farms by purchasers is sold on to other organisations for processing. That is why there is often a disparity between the volumes of milk purchased by a purchaser and the volumes of milk that it processes.

Milk Processors

Organisations that process milk can again be a co-op, private dairy company or a PLC.

Graph 8 *– Volumes of Milk Processed (million litres)*



Source: Industry Figures and Dairy UK Estimates

With a relatively low level of industry concentration compared to continental counterparts, further opportunities for industry rationalisation and merger still exist.

International Investment

Many UK milk processors are, or are owned by, internationally-based companies. In addition to Arla Foods and Müller Wiseman Dairies, other companies in the UK with a significant international dimension include:

- *Glanbia Cheese*, a joint venture between Glanbia PLC of Ireland and Leprino Foods of USA (**www.glanbiacheese.co.uk**)
- *Caledonian Cheese Company*, who are owned by Lactalis of France (**www.grouplactalis.co.uk**)

This international dimension is an asset to the industry. It provides access to greater capital, expertise and marketing capability and gives the industry broader perspective and access to foreign markets that it would not otherwise have.

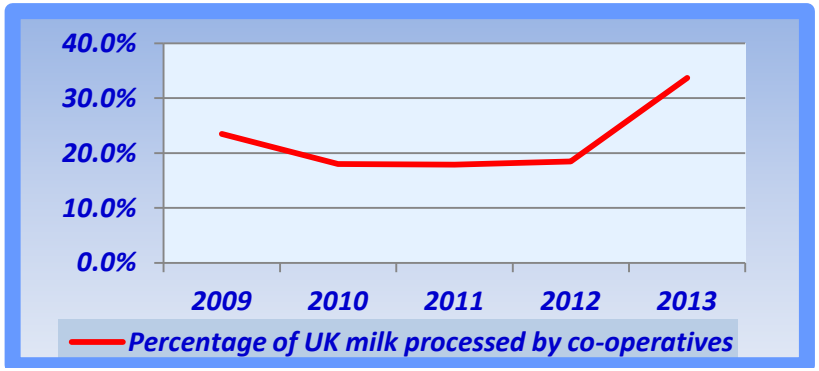
Farmer Ownership of Processing Capacity

Farmer ownership of milk processing capacity is growing.

The current situation is complex. Both United Dairy Farmers and First Milk own sizeable processing capacity but they do not process all the milk produced by their members. Dairy farmers supplying Arla Foods include farmers that are full members of the co-op by virtue of the merger between the UK co-op Milk Link and Arla Foods in 2012. In addition there are 1,300 British dairy farmers who are contracted to Arla Foods that are not currently members of the co-op but who will be given the opportunity to join in the near future. These farmers acquired a 3.15% stake in Arla Foods in May 2008 through a joint venture owned equally with Arla's Scandinavian parent co-op.

However, overall, farmer engagement in processing is now rising again in the UK after the setback caused by the failure of Dairy Farmers of Britain.

Graph 9 *– Evolution of Co-op Processing*



Source: Industry Figures and Dairy UK Estimates

Structure of Milk Processing Sites

The industry has invested heavily in extremely large, efficient processing facilities, particularly in the liquid milk sector. In England and Wales, dairy facilities which process over 100 million litres of milk account for almost 91% of the volume of milk processed.

Table 6 *– Size Distribution of Dairy Companies by annual output of liquid milk, England and Wales 2012**

	Companies Producing Liquid Milk		Volume of annual output	
Size Band (tonnes per year)	Number	% of Total	Thousand Tonnes	% of Total
Under 10,000	8	38.1	19.3	0.3
10,001 – 100,000	7	33.3	301.8	5.2
Over 100,000	6	28.6	5,428.2	94.4
Total	**21**	**100.0**	**5,749.3**	**100.0**

Source: Defra

Table 7 *– Size Distribution of Dairy Companies by annual output of cheese, England and Wales 2012**

	Companies Producing Cheese		Volume of annual output	
Size Band (tonnes per year)	**Number**	**% of Total**	**Thousand Tonnes**	**% of Total**
100 and under	8	19.0	0.3	0.1
101 – 1,000	10	23.8	3.6	1.4
1,001 – 4,000	12	28.6	23.1	8.9
Over 4,000	12	28.6	233.5	89.6
Total	**42**	**100.0**	**260.5**	**100.0**

Source: Defra

*Some smaller companies do not participate in the survey.

Note: Data given in Tables 6 and 7 are confined to those processors in England and Wales who have responded to DEFRA's monthly surveys of wholesale milk utilisation by dairies and may underestimate the number and contribution of smaller manufacturers.

Investment by Dairy Processors

Dairy processors, both co-op and private, are undertaking a sustained high level of investment in the UK. Annual capital investment by the top five dairy organisations in the UK has exceeded £100m per annum for the past eight years.

Table 8 *– Capital Investment by the Top Five UK Dairy Businesses*

Year to March	Capital Investment (£m)
2006	104.5
2007	119.1
2008	139.2
2009	131.2
2010	126.9
2011	133.6
2012	209.9
2013	265.9

Source: Dairy UK

The biggest single recent investment by the dairy industry has been £150m by Arla Foods which is nearing completion of a one billion litre liquid milk processing facility near Aylesbury, outside London.

Dairy Company Strategy Report

Dairy companies are adapting their strategies to meet the challenges of a changing environment. In April 2013 DairyCo, the levy-funded development body for dairy farmers, published its third annual guide to milk buyers which reviewed strategy and performance of the UK's milk purchasers (www.dairyco.org.uk/resources-library).

The report stated that:

> '...over the last two years the largest milk buyers in GB have changed structurally and strategically. Fresh liquid milk remains the biggest end market with milk buyers competing for the large volume retail aligned contracts. However, the largest milk buyers in GB have adopted business models and are developing product portfolios that are more competitively diverse than two years ago and are creating market positions which are more uniquely defined'.

The report's conclusion noted that:

> 'Over the last three years milk buyers have become much more adept at focusing on the establishment of unique and competitively diverse market positions' and that 'Milk buyers are staking big investments (relative to profit and turnover) in upgrading, rationalising and expanding processing facilities in order to better align the product offering to the end market in terms of quality, product attributes and competitive value'.

Production of Product

Almost half of the milk purchased by UK dairy companies and co-operatives is processed into liquid milk. After liquid milk the key dairy products are cheese, powders, condensed milk, butter and cream.

Table 9 – *Utilisation of Raw Milk for the Manufacture of Dairy Products*

(Million litres)	*2011*	*2012*	*% change 2011-12*
Availability of raw milk	*13,534*	*13,323*	*-1.6*
Imports	*102*	*129*	*+26.6*
Total available	*13,636*	*13,452*	*-1.3*
for liquid consumption	*6,892*	*6,813*	*-1.1*
for manufacture	*6,260*	*6,095*	*-2.6*
Butter	*267*	*298*	*+11.4*
Cheese	*3,710*	*3,723*	*+0.4*
Cream	*243*	*244*	*+0.7*
Condensed Milk	*300*	*289*	*-3.6*
Milk Powders	*1,130*	*926*	*-18.0*
Yogurt	*286*	*267*	*-6.7*
Other	*324*	*348*	*+7.4*
Dairy wastage and stock change	*4*	*78*	*+2,125.7*
Exports	*481*	*467*	*-3.1*

Source: Defra

Most UK dairy produce is ultimately intended for human consumption, and over 70% is produced in consumer packs for sale. Of this the majority are fresh dairy products, either liquid milk or yogurt, that are distributed through a chilled distribution chain. Ensuring the rapid, timely and safe distribution of perishable food products throughout the UK, whilst simultaneously responding to change in consumption trends, is one of the core strengths of the UK dairy industry.

Commentary: The UK Fresh Products Industry

Graeme Jack, Corporate Communications Director Müller UK & Ireland Group
Chairman of Dairy UK Communications Group

The UK dairy industry has world class expertise in the processing and distribution of fresh dairy products, particularly fresh pasteurised liquid milk.

Fresh liquid milk is one of the defining characteristics of the British diet. The British liquid milk industry has invested in state of the art processing facilities to service this market safely, efficiently and sustainably.

This is matched to equally world class expertise in logistics to distribute a high quality perishable product through a chilled distribution chain daily all over the country, every day, day after day. Fresh milk products end up in the fridges of over 98% of consumers in the country. The industry's achievement is reflected in the complete confidence and reliance consumers have in British liquid milk.

This expertise provides the industry with a strong foundation to exploit developing opportunities, including both import substitution and exports. The processing industry is approaching these opportunities through sustained innovation and marketing designed to tempt consumers and stimulate new demand for dairy products.

Taking advantage of these opportunities requires determination, investment and focus on competitiveness, innovation and efficiency. But if the progress made in our sector in the past few years is a measure of what our industry can expect in years to come, the future looks white - and bright.

Industry Customers

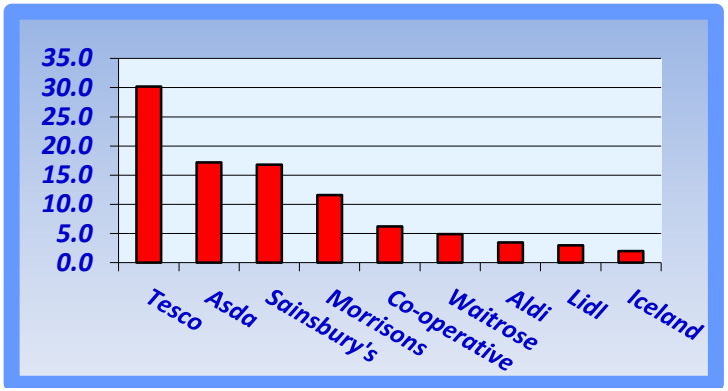
The UK dairy industry has to meet the needs of a range of different customer types, the most important of which are retailers. Other major customer segments include wholesale distributors, catering outlets, institutional customers (hospitals, schools, prisons), food processors, traders and export customers. Only a small proportion of the industry's total output is sold direct to the consumer by dairy companies via the doorstep delivery service or through local markets.

Retailers

The grocery market is dominated by four major retailers — Tesco, Asda, Sainsbury's and Morrisons, accounting for 76% of all sales in Great Britain — but pressure is being put on them by the discounters, such as Aldi (which has recorded an all-time record share of 3.5%, up from 2.8% in the previous year), and Lidl (which has maintained its largest share of 3%). Waitrose, too, is gaining business having also achieved a record share of the grocery market (4.9%).

The quality and professionalism of the retailers operating in the UK means that the UK dairy industry successfully addresses some of the most challenging and demanding commercial relationships in the global food industry.

Graph 10 – *Share of Grocery Market (% share 12 weeks ending 12 May 2013)*



Source: Kantar Worldpanel

Doorstep Sales

Doorstep delivery, which stands at less than 5% of the liquid market, still remains a favourite with millions of consumers. The industry sells around 1 million pints of milk per day direct to the consumer in returnable glass bottles. The sector is being driven by an increasing demand for convenience amongst consumers and a significant degree of innovation in the type of services and products made available to the consumer.

Dairy UK helps to market the doorstep delivery service to consumers through the *Find Me a Milk Man* website at **www.findmeamilkman.net**.

Out of Home Consumption

The sale of food and drink for consumption outside the home is continuing to grow. Public sector use accounts for about 30% of this market, with private sector restaurants, pubs and hotels making up the rest. Although the growth in out-of-home consumption has slowed during the recession, the IGD forecasts that by 2025 consumers will spend as much on eating out as they do on food to eat at home (Source: IGD Research).

School and Nursery Milk

The industry pays careful attention to the school and nursery milk market as it helps to cultivate consumption habits that last a lifetime. The EU and the UK authorities also provide support for milk consumption at this age. Free milk is available to under-fives in registered nurseries. Subsidised milk is available for pupils in primary and secondary education.

The EU School Milk Subsidy Scheme gives a modest subsidy for liquid milk and yogurt consumed by school children (the volume was 27,807 tonnes in the UK during the 2011/12 school year). The current subsidy rates are €0.187 per litre from the EU and a further 3.98p per litre "top-up" from the Government for children in primary education. In Northern Ireland, the 3.98p "top-up" is also payable on milk supplied to children in secondary education. In Wales, the Welsh Government funds an additional top-up to provide free milk to children in Key Stage 1 education and a small administrative allowance to claimants operating Key Stage 1 milk schemes.

Ingredients Sector

This covers the use of milk products as an ingredient in food processing. This can range from biscuits, cakes and confectionery to ready-made meals. It is an enormously diverse sector and the fragmented nature of this market means that little data is available. This sector continues to grow as consumers eat more processed and prepared foods.

Commentary: The Future of the UK Cheese Sector

Andy Smith, Group Managing Director at Lactalis McLelland
Chairman of Dairy UK Cheese Group

Long term the British cheese industry has a great future. It is one of the cornerstones of the British dairy industry. The British cheese sector processes 61% of the milk used for products other than liquid milk. A total of 3.7 billion litres was used to manufacture 393,000 tonnes of cheese.

The industry is well placed to exploit future opportunities. The industry's principle strength is variety. At the last count there were 700 named varieties of British cheese with products to suit all tastes: hard, semi hard, crumbly, soft, blue, rind washed, blended. Cheddar is still a mainstay of the consumer market with the industry supplying a fantastic spectrum of products from mild, medium, mature, vintage, farmhouse etc. On top of this is innovation in reduced fat and low fat cheeses, reduced sodium products, packaging and convenience.

Variety is important in today's market where the trend is towards product differentiation to meet individual consumer preferences. British cheesemakers can, therefore, address this market need.

Cheesemakers combine variety with safety, quality, traceability and comprehensive distribution logistics. This provides a winning package that enables them to serve some of the most demanding customers in the world: the major UK retailers.

This foundation will enable them to exploit growing global demand for dairy products. British cheesemakers already export around 32% of production. British cheesemakers are now working hard to identify further opportunities.

Short term the sector is unquestionably facing major challenges of cost competitiveness and raw material supply and the abolition of quotas can be expected to significantly increase competition in the UK market. However, these challenges shouldn't blind us to the underlying strengths of the sector which should enable it to deliver a rewarding and prosperous future to those committed to its development.

TRAINING AND SKILLS

Both at the farming and processing levels the UK dairy industry is undertaking a range of training and knowledge transfer initiatives to equip farmers and employees with skills for the future.

Eden Project

In response to the need to recruit and train staff in technical areas, the industry operates its own, world class, three-year degree course in Dairy Technology at Reaseheath College, known as Project Eden. Over 75 students have enrolled in the course since it was launched in September 2009 with the first batch of 25 students graduating in 2012.

The course was developed jointly by Dairy UK members in conjunction with Reaseheath College, and the National Skills Academy for Food and Drink and benefits from the creation of a new, state of the art training dairy at Reaseheath College which opened in April 2010. The facility, which cost £2.7m, represents a massive investment in the future training of dairy industry personnel.

Project Eden has been expanded to further include a new engineering apprenticeship which was launched in 2012 with the first 22 apprentices starting in September 2012.

DairyCo and Dairy Pro

Part of DairyCo's remit is to deliver a sector-tailored knowledge transfer programme, based on evidence from targeted Research and Development and third party science. This activity aims to improve business performance and the efficiency of milk production systems.

Research such as DairyCo's Milkbench+ demonstrates that those who keep up to date with their knowledge, best practice and management skills, and encourage their staff to do the same, would find the results reflected in the profitability of their business. Dairy farmers can now gain formal recognition for training and skills development through Dairy Pro, a Dairy professional development scheme.

Dairy Pro responds to a need identified in the AgriSkills Forum Skills strategy report, and has been established with initial funding from DairyCo and the Residual Milk Marketing Board.

Dairy Pro has been created by the industry for the industry. It offers a sustainable Continuing Professional Development solution for the UK's dairy industry which captures training and skills development for individual dairy professionals.

Dairy Pro:

- Aims to be a one stop shop for quality training information.
- Provides an on-line record of professional skills.
- Promotes an efficient and profitable industry.
- Supports lifelong learning.
- Assures consumers and legislators of the dairy industry's professionalism.

Launched at Livestock 2012, Dairy Pro now has 57 registered training providers and 254 members. Dairy Pro membership is open to dairy farmers and farm staff, students and associates of the dairy farming industry. For more information visit www.dairypro.org.uk.

Alongside this, the AHDB is developing a skills strategy that dovetails with other industry initiatives and co-ordinates external skills development across all their six sectors to help ensure the agriculture and horticulture industries are able to develop and attract workers with the skills needed to operate effectively.

The Prince's Dairy Initiative

The Prince of Wales has galvanised activity in knowledge transfer for smaller farmers. In October 2011 the charity Business in the Community, launched The Prince's Dairy Initiative in response to the challenges faced by small dairy farmers in the UK. The Prince of Wales is President of the charity.

Through a package of business advice and support primarily delivered through workshops on farm production, soil and slurry, financial management, herd health and feed and forage efficiency, it aimed to improve confidence and increase efficiencies within a group of farmers identified as vulnerable to ceasing dairying. The pilot year has been an unprecedented success and the Initiative is now being rolled out for a further three years to reach a further 300 dairy farmers in five cluster regions across the UK: Renfrewshire, Derbyshire, Lancashire, South Wales and South Devon.

Leading members of the dairy sector have pledged their continued collaboration and support and work is underway to identify participating farmers and develop workshop content for 2013.

BUSINESS IN THE COMMUNITY

Commentary: The UK Dairy Industry and Skills and Training

David Cotton, Chair of Dairy Pro

The strength of the industry rests on the motivation and professionalism of the people employed throughout the supply chain. It is important that they are properly equipped with the skills they require to carry out their activities. It is equally important that they are also given the opportunity for further personal development. The industry can offer a rewarding and stimulating lifetime career to those that want to commit to it.

The quality of skills and training delivered plays an important part in the industry's competitiveness. The UK dairy industry is moving forward with a number of training and knowledge transfer initiatives to address this challenge. Collectively they provide an increasingly comprehensive training capability covering all levels of the supply chain. Over time these initiatives will be further deepened and extended to reflect the continued evolution towards a well developed and professional workforce.

These formal training processes ultimately build upon a fund of real enthusiasm and dedication shown by people throughout the industry. Feeding the nation everyday has its own intrinsic reward and it is an achievement that we can be justly proud of.

CONSUMERS AND MARKETING

The UK dairy industry's core expertise is in meeting the needs of consumer markets. The majority of output is pre-packed goods intended for direct consumption. UK dairy products are integral to the diet of the nation, but consumer preferences are constantly evolving. The UK dairy industry has responded to this dynamic market environment with sustained product development, innovation and branding, backed up with successful marketing initiatives despite challenging market conditions.

Market Penetration

Dairy products can be found in every household in the UK. This gives the dairy industry one of the highest degrees of market penetration of any consumer product and makes dairy foods extremely important to the health and well being of the nation.

- 98% of people regularly eat or drink dairy products (2011 - 99%).
- 93% of people regularly consume fresh milk (2011 – 95%).
- 90% of people regularly consume cheese (2011 – 94%).

(Source: 2012 telephone survey for The Dairy Council and DairyCo)

Maintaining consumer confidence and trust in the healthfulness and wholesomeness of dairy products is at the heart of all industry activity.

Product Consumption Trends

Trends in Liquid Milk Consumption

According to Defra's authoritative but historic Family Food publication, trends in the liquid milk market were already on an upward trajectory in 2011.

Table 10 – *Average 2011 dairy consumption per person per week*

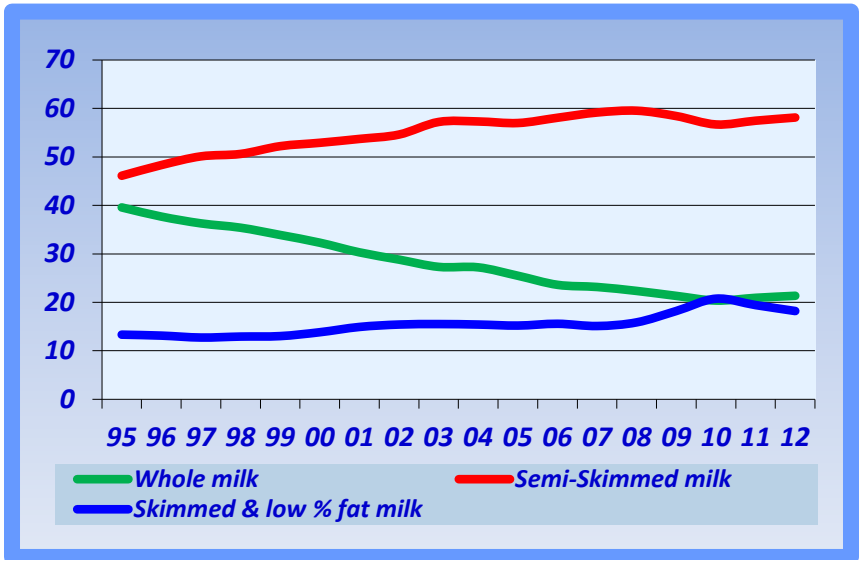
Product	Unit	Quantity	% change vs 2010
Fresh liquid milk	ml	1,502	+0.1
Whole milk	ml	351	+2.0
Semi-skimmed milk	ml	984	-0.1
Skimmed milk	ml	167	-2.5
Long life milk	ml	4	-48.1
Total cheese	g	118	+0.2
Hard cheese – Cheddar	g	67	+0.8
Hard cheese – other UK	g	9	+1.0
Hard cheese – foreign	g	7	-7.4
Cottage, soft natural or processed cheese	g	35	n.c.
Cream	ml	23	-1.3
Yogurt and Fromage Frais	ml	200	-1.5
Condensed milk	ml	18	+11.6
Dairy desserts – fresh	ml	41	+1.6
Butter	g	40	+1.5

Source: 'Family Food' published by Defra

The latest data from Kantar Worldpanel shows that total consumption of liquid milk continues to rise with data showing positive growth of 1.3% in the 52 weeks ending May 2013.

Looking at milk type, the market share of semi-skimmed continues to increase and now accounts for 58% of all household purchases. The introduction of 1% and low fat milks has had a noteworthy effect on the market; the share of skimmed and low fat milks has risen from 13% to 18% over the last 15 years. After a long term period of decline, whole milk's share has increased over the past two years, partly attributable to the presence of multi-buy discounts. UHT sales have declined by 6.8% during the past year.

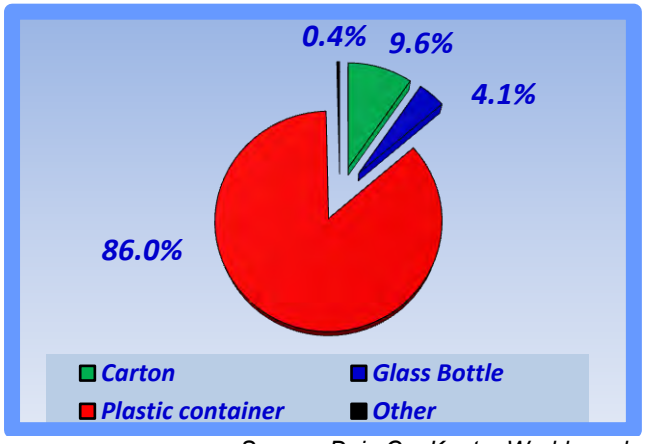
Graph 11 – *Sales of Milk by Type (% market share)*



Source: DairyCo, Kantar Worldpanel

In terms of packaging, almost 86% of liquid milk is now sold by retailers in plastic containers, with approximately 14% of milk sold in glass bottles or cartons.

Graph 12 – *Sales of Liquid Milk by Container Type 2012 (Retail)*



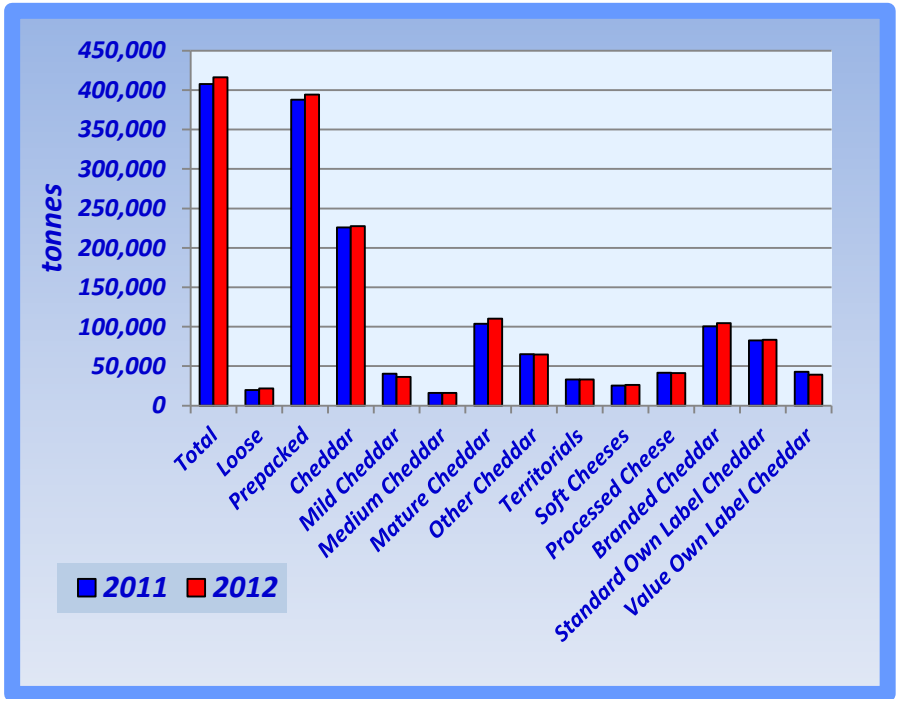
Source: DairyCo, Kantar Worldpanel

Cheese

The cheese market is growing. The UK household cheese market grew strongly in 2012 (by 2.1% in volume and 5.6% in value), Sales of pre-packed cheese, which accounts for 95% of the sector, drove the growth, with a 1.7% increase and loose sales also recorded strong growth (+9.5%) but suffered from a 7.3% fall in value.

The soft cheese sector continues to grow year-on-year and mild Cheddar continues to decline, reflecting consumer's preference for more mature varieties.

Graph 13 *– Household Sales of Cheese by Type in 2011 and 2012*



Source: DairyCo, Kantar Worldpanel

Other Fresh Dairy Products

Yogurt is the star performer as fresh dairy products continue to grow steadily. Yogurt consumption rose by 37% during the 10 years to 2011. A key driver of growth in this sector has been the rise in consumption of functional foods, such as probiotic and prebiotic yogurts and yogurt drinks.

Table 11 – *UK Annual Consumption of Fresh Dairy Products by Volume*

('000 tonnes)	2001/02	2008	2009	2010	2011
Yogurt	450	594	605	615	609
Fromage Frais	58	72	69	63	64
Cream	70	68	76	79	78
Dairy desserts	210	233	253	227	234

Source: Defra

Even though the rapid growth in the functional foods market has started to decrease over the past couple of years, sales of yogurt, yogurt drinks and chilled desserts by value continued to increase through the recession, with the market increasing by 6.2% in 2010 to £2.1bn and forecast to grow at a Compound Annual Growth Rate (CAGR) of 4.4% to 2015. Healthier eating and promotional campaigns are major factors behind this trend.

Healthy Eating and Dairy Products

Healthy eating is driving dairy product demand. In response to public concern about obesity and calorie intake the industry has generated a comprehensive range of lower fat varieties of dairy products. The trend towards lower fat products began decades ago with semi-skimmed and skimmed milks, and it is still continuing for liquid milk with the development of 1% fat and below milks. Low fat and reduced fat "lighter" cheeses have also seen positive growth.

Consumer Choice

Recession and income pressure is affecting consumer choice. This has created a demanding environment in which the industry has had to adapt its product proposition and pricing strategies.

Price remains by some distance the main consideration for consumers, but the quality of the product is also becoming more important.

Table 12 – *Macro Drivers of Product Choice*

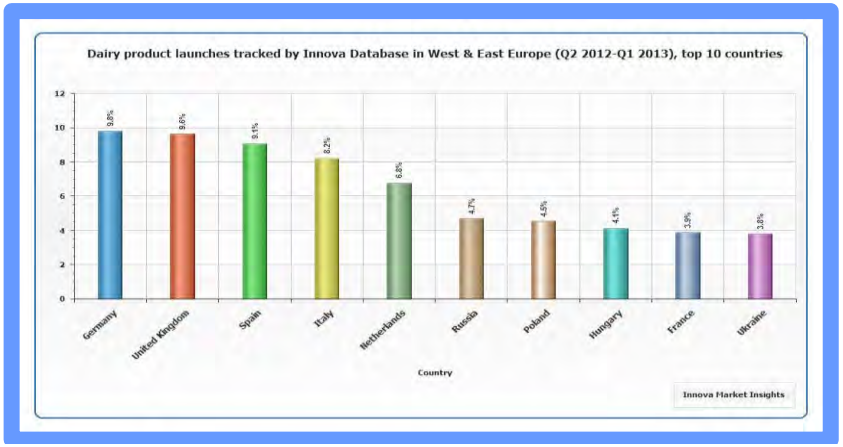
Drivers of Consumer Choice Rankings, 2013		2012 Rank
1	Price	1
2	Promotions	2
3	Quality	3
4	Taste or Smell	4
5	Familiarity	6
6	Healthy Options	5
7	Use or Sell By Date	7
8	Brand	8

Source: IGD

Innovation

The industry invests in product innovation and ranks alongside major European competitors in commitment to this area.

Graph 14 *– Top 10 European countries in Dairy Product Launch Activity - % of Total Result set (Q2 2012 – Q1 2013)*



Source: Innova Market Insights

Brands

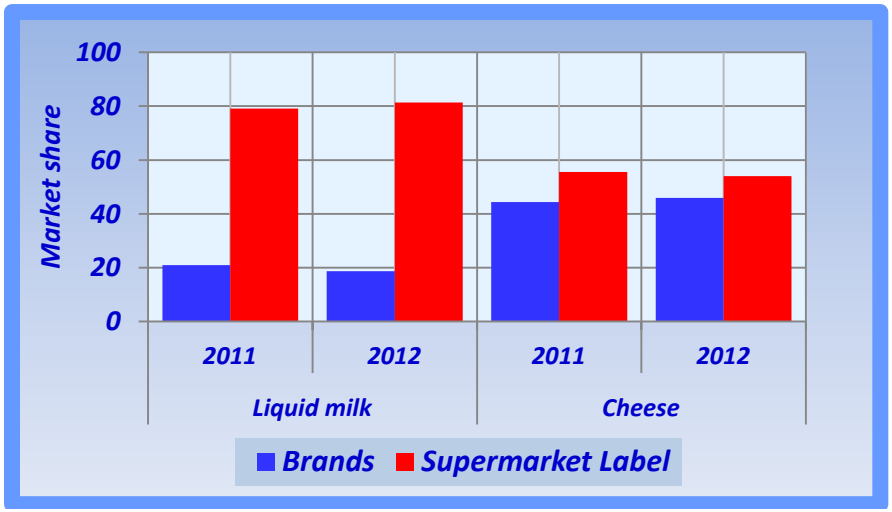
In the UK, focuses for innovation include:

Health concerns:	***Functional and enriched foods***
Lifestyle issues:	***Convenience products***
Ethical choices:	***Organic products***
Provenance:	***Locally supplied products***
Quality:	***Premium products***

One of the major drivers of the value obtained from milk is the possession of brands. The UK dairy industry is working hard to increase the proportion of branded products in its portfolio.

Despite the challenging economic environment, the dairy industry has been successful in retaining the share of dairy products sold under dairy company brands for cheese.

Graph 15 – *Brands versus Supermarket Label in 2011 & 2012*



Source: Industry Estimates

Provenance

Research shows that British consumers respond strongly to provenance and the dairy industry is responding in turn.

The dairy industry in the UK has focused on developing products and packaging that respond to consumers' increasing sophistication, including a range of products to meet ethical and 'source of origin' criteria. Chief amongst these has been emphasising the origin of dairy products. A significant number of products, particularly cheeses, are already marketed on the basis of their association with regions of the UK.

In 2010, Dairy UK participated in the development by the food industry of a Voluntary Code of Practice on the country of origin labelling for meat and dairy products. The development of the code was facilitated by Defra.

Growing public interest in the origin of food and production methods has also led to the creation of world-leading traceability systems and direct relationships between retailers and dairy farmers. In addition, major retailers have made commitments to increase sourcing of British cheeses.

Organic Milk and Dairy Products

Dairy continues to dominate the organic category, but sales dipped again in 2012.

Table 13 – *Retail Sales of All Milk and Organic Milk (Million Litres)*

	All Milk	*Organic*	*% of Total Sales*
2008	*4,957.7*	*166.4*	*3.36*
2009	*4,979.2*	*160.1*	*3.22*
2010	*5,060.2*	*156.1*	*3.08*
2011	*5,125.5*	*144.0*	*2.81*
2012	*5,173.1*	*144.0*	*2.60*

Source: DairyCo Datum, Kantar Worldpanel

Organic milk sales fell by 4.4% in volume terms over the year in 2012 but Nielsen Scantrak shows a 0.5% increase in market value. This reflects more favourable farm gate prices which have gone some way to compensating producers for lower demand. Encouragingly however sales volumes started to grow again in the last five months of the year and market value increased by 1.5%.

Milk Marketing

The British dairy industry has collectively been investing heavily in the marketing of its products, through the *make mine Milk* campaign and *Milk It For All Its Worth* campaigns.

The Milk Marketing Forum – with support from The Dairy Council and Dairy UK – has continued to implement its generic '*make mine Milk'* campaign over the past year, and results continue to show improvements for milk's position in the British market.

Further famous faces such as movie hardman Vinnie Jones, boxing legend Joe Calzaghe, X-Factor starlet Amelia Lily, and London 2012 heroines Nicola Adams, Laura Trott and Jade Jones have all been added to the milk moustache hall of fame.

These stars have helped to promote milk's healthy and cool credentials to the nation, with a particular focus on making sure that the mums of tomorrow - teenage girls – are heavily impacted by social media activity which endorses the 'white stuff'.

With a Facebook community of over 136,000 'likes' and more than 1,000,000 views of YouTube content, the 'make mine Milk' campaign has claimed four top marketing industry awards for its social media campaign so far in 2013. You can learn more at http://www.makeminemilk.co.uk/.

The Milk Race

Probably the most significant development for milk marketing in the past 12 months has been the return of legendary cycling event, The Milk Race.

Brought back by The Dairy Council for the first time in 20 years, a day-long festival of cycling in Nottingham on Sunday 26 May saw elite race podium finishers Dani King, Ed Clancy and Felix English down milk in celebration, in front of tens of thousands of spectators. The action was captured and broadcast to the nation in an hour-long programme on British Eurosport.

Many hundreds of people also helped themselves to milk and dairy produce from some of the industry's leading brands in The Milk Race Village set up on Nottingham's Old Market Square.

All of this activity combined has helped to boost attitudes towards — and consumption of — milk even further. As reported by independent consumer tracking research from Researchcraft, milk is now viewed as +32% 'cooler' than it was before the 'make mine Milk' campaign began, while +20% more people now agree with the statement that milk is 'low in fat'.

Meanwhile, Kantar figures indicate that there has been a +3.9% uplift in milk consumption across GB when comparing 2012 to 2009. Against the backdrop of the declining milk market before the 'make mine Milk' campaign launched, this is equivalent to incremental volume of 726 million litres (versus the expected -0.5% per year drop in consumption had there been no activity from the MMF).

Milk It For All It's Worth

Milk It For All It's Worth is The Dairy Council's campaign that promotes the benefits of milk and physical activity to young people, and informs health and fitness professionals about the latest science on milk and sport. The campaign has a strong social media presence with over 210,000 youtube video views, 10,000 facebook likes and 5,500 twitter followers.

Talented athletes who've helped to bring messages about milk and sport to young people since the campaign began include: World Champion Gymnast Beth Tweddle, England and Team GB Ladies Football Captain Casey Stoney, Wimbledon Boys Doubles Champion Tom Farquarhson, five times World Junior Champion Wheelchair Racer Jade Jones, No 1 British Junior Women's Fencer Leah King, World Champion BMX racer Liam Phillips, Saracens Prop Petrus Du Plessis, GB Wheelchair Basketball Players Judith Hamer and Billy Bridge, and rising star of the English National Ballet Laurretta Summerscales. Organisations that have supported the campaign include Youth Sports Trust, the English Schools Football Association and Sports Aid.

Find out more on the Milk It social media channels: @MilkitGB

Commentary: The UK Dairy Industry and Product Marketing

Sandy Wilkie, Sales and Marketing Director of Müller Wiseman Dairies
Chairman of the Milk Marketing Forum

The British dairy industry has developed considerable expertise over many years in the marketing of its products, with value being added at every stage of the process.

Understanding the wants and desires of the public is fundamental. Substantial expenditure on research by the individual dairy companies results in the development of products that are both innovative and consistent with what consumers are willing to buy.

The dairy industry has built strong working relationships with the retail trade to ensure that the full range of milk and dairy products is available and merchandised favourably for the public to purchase. This is equally true of the major supermarkets and the convenience store sector as well as the traditional channel of distribution for milk and dairy products, the doorstep delivery service.

Heavy investment in advertising and promotion is provided by the dairy companies to achieve the 'share of mind' that encourages trial of new products by the public and the on-going consumption of existing products. the make mine Milk campaign and its success is demonstration of this.

Many exciting new product developments have helped to promote the nutritional benefits of milk and dairy, while the iconic cycling event, The Milk Race, has seen the public's love for the 'white stuff' continue to grow. In the years ahead the industry must be careful that the good work is not eroded. Dairy detractors will not get any quieter, so consumer-facing campaigns must get even louder.

There are significant opportunities to make this happen, in particular securing future funding from all sides of the industry for the extension of the 'make mine Milk' campaign into all dairy products and The Milk Race, and now is the time to work together to identify solutions.

DAIRY AND NUTRITION

Dairy products are wonderful nutrient rich foods. The UK dairy industry has significant expertise in communicating the nutritional benefits of dairy products, especially to different demographic groups. Cheese is a complex food that delivers key beneficial nutrients whose virtues have been misinterpreted by a healthy eating debate narrowly grounded on negative constituents. The UK dairy industry has particular expertise in assisting in the delivery of Government public health initiatives.

Nutrition and Health

The dairy industry produces a wide range of tasty, safe and nutritious products which are enjoyed by the majority of UK consumers every day.

It is well known that good nutrition has a profound impact on health. Choosing a diet based predominantly on foods which provide a lot of nutrition relative to the amount of calories they contain (nutrient rich foods), as well as staying physically active, is a good way to get the essential nutrients your body needs while maintaining a healthy weight.

Milk, cheese and yogurt are nutrient rich foods. They are major contributors of a number of key nutrients to the UK diet. Without them, many people would find it difficult to meet recommended intake for nutrients.

The best known of the nutrients that foods like milk, cheese and yogurt provide is calcium. But, these foods also provide good quality protein, a range of vitamins e.g. vitamin A and B group vitamins, a variety of minerals e.g. iodine, potassium, zinc, phosphorus, fat and carbohydrate. For more information on the nutritional benefits of dairy foods please visit http://www.milk.co.uk/consumers/default.aspx

Communicating the benefits of dairy nutrition to all age groups

Communicating the nutritional benefits of its products in the context of a healthy balanced diet and lifestyle is important to the dairy industry. In addition to communicating with consumers, the industry also works with teachers, health professionals, health charities and NGOs. Two examples of this sort of work from opposite ends of the age spectrum are:

- **Health and Wellbeing Award Programme**

  In 2012, The Dairy Council launched this programme for schools in Scotland. The programme is designed to encourage awareness of the links between diet, physical activity, personal health and the environment, whilst increasing the learning experiences and skills of the young people taking part. For more information please visit http://www.healthandwellbeingaward.org.uk/

- **Bring it Back**

  Dairy consumption also benefits the older generation. In 2013, The Dairy Council launched a campaign called 'Bring it Back' designed to offer increased recognition of under-nutrition in the elderly and offer simple solutions to combat it, such as bringing back healthy meals and snacks. The Dairy Council has created easily accessible materials co-written with Guys and St Thomas's NHS Foundation Trust. The National Pharmacists Association, Contact the Elderly at Guys and St Thomas' Hospital and Age UK were also involved in the development of the campaign. For more information on the 'Bring it Back' campaign please visit: http://www.milk.co.uk/consumers/page.aspx?intPageID=1067

Cheese

Cheese and Nutrients

Natural cheese is a complex food made from just a few basic ingredients – milk, a starter culture (good bacteria), rennet and salt.

Like milk and yogurt, cheese provides a number of key nutrients to the UK diet. As a general rule, hard cheeses, such as Cheddar, have the highest concentration of nutrients. A hard cheese, like Cheddar, can make a significant contribution to recommended intakes for protein, calcium, phosphorus and vitamin B12 to the diets of young people.

Unfortunately, there are lots of misconceptions about cheese and its role in diet and health largely due to the over emphasis on its fat, salt and calorie content and a lack of understanding of the real contribution of these nutrients to the UK diet.

Cheese and Salt

According to the National Diet and Nutrition Survey, cheese contributes only 4% of the salt in the nation's diet. Salt is integral to the cheesemaking process. It's added for the following safety and technical reasons:

- Salt controls the development of the special bacteria used in the cheesemaking process.
- Salt facilitates the release of whey from the curd.
- Salt acts as a preservative, preventing the growth of undesirable bacteria.
- Salt is important in helping the curds to mature.

Cheese manufacturers have worked very hard to overcome technical barriers and reduce salt levels in their products. They have worked constructively and positively with government agencies to do this whilst producing products which are nutritious, safe and acceptable to the public's tastes.

Cheese and Fat

Cheese can fit within dietary guidelines for fat and calories. Dietary guidelines in the UK suggest that around 70g of fat a day is a healthy upper limit for an average woman and 95g for a man. A matchbox-size piece of Cheddar cheese contains approximately 10g of fat. That's about 14% of the maximum for a woman and about 10% for a man.

Dietary guidelines also suggest that around 20g of saturated fat a day is a healthy upper limit for an average woman and 30g for a man. A matchbox-size piece of Cheddar cheese contains 6.5g of saturated fat. That's about 32% of the maximum for a woman and about 22% for a man.

Cheese and Calories

In addition, guidelines suggest that the average woman needs around 2,000 calories a day and the average man around 2,500 calories. Eating a matchbox-size piece of Cheddar would provide only 6% of a woman's daily calorie intake and 5% of a man's daily calorie intake based on the Government's guidelines for calorie intakes.

Public health

The Department of Health and the Responsibility Deal

The UK dairy industry works co-operatively with the Government to deliver its public health policy objectives.

In England, the responsibility for nutrition policy rests with the Department of Health (DH). The DH has adopted the Responsibility Deal (RD) which represents a partnership between the DH and the food industry. RD pledges have been drawn up in a number of areas including *trans* fat reduction, salt reduction, calorie labelling out of home and calorie reduction. Companies who sign up to the RD pledges commit to take actions that will lead to improvements in public health.

In August 2012, Dairy UK signed up to the Responsibility Deal pledge on calorie reduction. It has submitted a year 1 report to the DH in which it describes the market situation for lower-calorie dairy foods, reports on the progress made by The Dairy Council and Dairy UK members in meeting the pledge commitments, and provides a number of case studies showcasing the positive work of being carried out by a number of dairy companies in meeting the Dairy UK calorie reduction RD pledge.

Commentary: UK Dairy Foods

Dr Judith Bryans BSc PhD RNutr, Director, The Dairy Council

Throughout life, dairy foods have an important role to play in the diet and the British dairy industry can pride itself on making a huge variety of tasty, versatile and nutritious products available to consumers.

The dairy industry recognises the diverse needs of the British consumer when it comes to nutrition. From a purely academic point of view, nutrition is about getting the nutrients needed to keep the body healthy and getting them in the right amounts. Whatever the need or age, there is a dairy product that can fit the bill, and with scientific research showing that dairy consumers tend to have better quality diets than non-consumers, the ability of the industry to ensure that its products keep step with consumer needs is important to the nation's health.

Beyond basic nutrition, milk, cheese and yogurt and dairy ingredients, such as whey protein, have a role to play in performance nutrition. The London 2012 games showed numerous examples of Team GB nutritionists recommending milk to the nation's athletes thanks to the research showing its benefits in rehydration and muscle recovery.

Globally, there is an ever growing aging population with its associated challenges.

As well as providing a substantial amount of nutrients to the diet of this age group, dairy is currently being investigated for its potential for helping with conditions such as sarcopenia (loss of muscle).

It is important for the dairy industry that the nutritional benefits of dairy foods are promoted and their image protected. The industry does, and must continue, to promote the nutritional benefits of its foods and be proud of the contribution they make to the health of the nation.

UK DAIRY AND THE ENVIRONMENT

The UK dairy industry recognises its responsibility to minimise its footprint wherever possible to ensure that dairy products can continue to be part of the nation's diet for years to come. The UK dairy industry leads the agri-food industry in terms of environmental commitment and action and will continue to work to ensure it retains this leadership role. The industry is undertaking a multiplicity of initiatives to reduce its footprint throughout the supply chain, foremost amongst which is the Dairy Roadmap which has provided a template imitated by several other countries around the world.

The Dairy Roadmap

Unique amongst major dairy producing nations, the UK dairy industry has committed itself to a plan to reduce its environmental footprint. This is the Dairy Roadmap which started life back in 2008 setting out a plan of action in the form of short (2010), medium (2015) and long term targets (2020) that would aim to tackle the major environmental impacts of producing liquid milk. In 2011 the Roadmap was extended to include all dairy products. 2013 sees the publication of a new report that updates on progress against targets to date, as well as the introduction of new and updated targets to ensure the initiative remains at the forefront of the sustainability agenda. More information on the Roadmap can be found at www.dairyroadmap.com .

Performance to date against 2015 targets

Producers

Producers have committed to a wide range of targets for 2015 covering everything from renewable energy, to efficient water use, to carbon footprinting and environmental stewardship. As you see from the table below, significant progress has been made in all areas and the sector looks on track to meet or beat the targets by 2015.

Target	Progress
65% of dairy managed farmland into Environmental Stewardship Schemes	69% or 841,810 hectares
90% of farmers are actively nutrient planning	73% of respondents to the DairyCo resources survey (2012) have a nutrient management plan
70% uptake of water efficiency measures	78% of respondents to the DairyCo resources survey are currently undertaking water efficiency measures
10-15% of dairy farmers investigating or implementing renewable energy	29% of respondents to the DairyCo resources survey have implemented some form of renewable energy
50% of dairy farmers implementing new developments and / or technologies to reduce emissions from agriculture	80.2% of respondents to the DairyCo resources survey are implementing measures, tools or skills which are new to the farm and had the potential to reduce GHGs
Continued declining trend in serious pollution incidents on farm	Data from the Environment Agency show a consistent long-term trend towards reducing pollution incidences associated with dairy farms
Dairy farmers encouraged to calculate carbon footprints and implement carbon reduction plans	38% of respondents to the DairyCo survey have undergone a carbon footprint audit out on their farms, and 52% of these had used the carbon audit to adjust their management

Processors

With the adoption of new and updated targets the processing sector has taken the important step of formalising its commitment to environmental improvement through the Dairy Roadmap. Individual processing companies have signed up to the initiative, each committing to individually take actions to help the sector achieve the targets detailed in this section. The processor commitment will increase the transparency of the Roadmap initiative and highlight those organisations that are taking action to reduce their environmental impact.

Target	Progress
Every large processing site will have in place an environmental management system (EMS) covering carbon, energy, water, effluent, waste and packaging, with all permitted sites progressing to an externally verified EMS by 2015	88% of large Dairy Roadmap sites have an EMS in place and 96% of permitted sites have EMS externally verified
Small sites to be investigating EMS	Due to the Roadmap's low threshold for a large processing site (below 50 tonnes of milk a day) there are currently only three small sites reporting into the initiative; of these two are already investigating EMS and should have systems in place by 2015
All major processing companies to be implementing a carbon management programme	Of the 5 major dairy processing companies currently reporting into the Dairy Roadmap all have programmes to monitor and reduce their carbon emissions. Over the next two and a half years companies will work to fully meet the requirements of this target.
A 20% relative reduction of water brought onto site	6% reduction achieved since 2008
A 30% reduction in COD load in discharged effluent	20% reduction achieved since 2008
To send zero ex-factory waste to landfill where environmentally advantageous for all large processing sites	73% reduction since 2008 from 6,244 to 1,703 tonnes
Three AD plants at dairy roadmap sites	Two AD plants currently operational at Dairy Roadmap sites and a further one due to be operational by 2014
30% recycled material in HDPE milk bottles	UK average of 15%, trials currently underway for 30%
Remove all HCFCs at all large processing sites	HCFC's currently make up just 25% of refrigerants used on dairy sites
80% of paper-based cartons to be FSC-labelled	New Target – to be reported on in 2015
A Biodiversity strategy for processors to be written and to be in the process of implementation	New Target – to be reported on in 2015
All major processing companies to be part of the Freight Transport Association's Logistics Carbon Reduction Scheme or to commit to equivalent fuel efficiency targets	New Target – three of the five major companies have already joined the FTA scheme
All major Dairy Companies to have phased out Euro4 engines	New Target – to be reported on in 2015

Retailers

Retailers are an important and influential part of the supply chain, forming the link to consumers, but also working increasingly closer with their supplying dairy farmers. Retailers, Asda, the Cooperative, Marks & Spencer, Morrisons and Tesco have all provided statements of commitment to the Dairy Roadmap and its aims, as well as comprehensive lists of activities that they are carrying out that will contribute towards to progress being made by producers and processors to meet targets.

Measuring the Industry's Carbon Footprint

The UK dairy industry has committed to measuring, monitoring and reducing carbon in the dairy supply chain. Dairy UK has worked in collaboration with DairyCo and the Carbon Trust to produce a common approach to carbon footprinting of dairy in the UK. The industry now has dairy sector-specific guidance on the application of PAS (Publicly Available Specification) 2050 that sets out broad rules for carbon footprinting.

This methodology has been used in a major carbon footprinting study from DairyCo that will run for three years and aims to develop a three year rolling average carbon footprint figure for British dairy farms using a robust sample of 415 farms. The first report, published in February 2012, showed that the average on-farm carbon footprint for a litre of milk produced in Great Britain was 1,309g.

Processors and retailers have also been extremely busy over the two years implementing their own carbon footprinting studies of dairy farms and all this work is improving the understanding the industry has of its own impact on climate change and, crucially, the action it needs to take to tackle this. To date almost 2,000 farms have been carbon footprinted through processor and retailer projects. The first year report can be downloaded at **http://www.dairyco.org.uk/resources-library/**

Dairy Farming and Greenhouse Gas (GHG) Emissions

The dairy industry is carrying out research to investigate cost effective ways of reducing GHG emissions from dairy farms. The key GHG emission from dairy farming is methane, which is a by-product of the enteric fermentation of grass, forage and other feed in the cow's rumen, the largest of its four stomachs. Opportunities exist for dairy farmers to improve their GHG emissions through, for example, the use of on-farm anaerobic digestion, use of biofuels in agricultural vehicles, increased energy efficiency, and increased feed efficiency. Research into ways of reducing GHG from dairy farms, includes studies looking at:

- Improving the ratio of methane emissions per unit of product by increasing cow longevity.
- Increasing milk yield per cow, recognising that on many units yields may already be at optimum levels in terms of economic viability and animal welfare.
- Enhancing the efficiency of rumen microbial action through changes in diet type, and the use of feed additives, to reduce methane production.
- Avoidance of low quality forage that stimulates methane production.
- Increased take-up of anaerobic digestion (AD) to produce biogas and reduce uncontrolled methane emissions from stored manures and slurries. AD can also export low-carbon electricity and heat services, which should be given credit in any overall greenhouse gas balance.
- Nutrient planning to ensure that the efficiency of nitrogen utilisation in plants and animals is optimised, thereby reducing the overall emissions of nitrous oxide and methane.

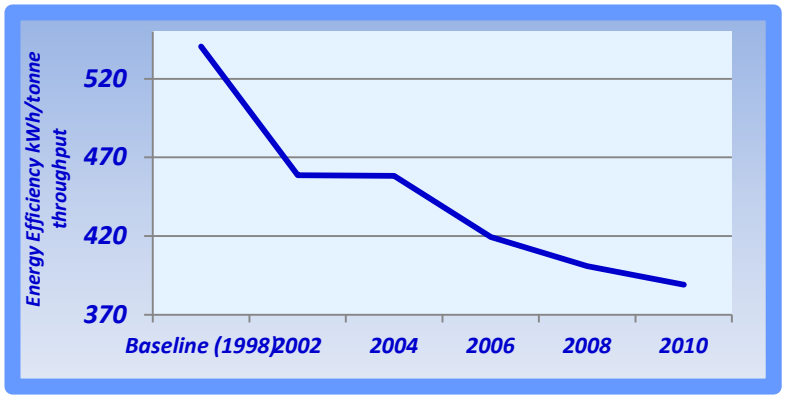
Environmental Benchmarking and Reporting

Dairy UK undertakes environmental benchmarking through a tool launched in 2008 in order to help members monitor and improve their performance. The tool allows users to benchmark their performance with complete anonymity against others in the industry covering a number of environmental performance indicators on energy use, emissions, waste, water and recycling. Benchmarking within and across sectors is seen as an increasingly important means of improving performance for individual sites. It helps give operators the power to identify best practices and processes, and helps users to adapt and implement them.

Dairy UK collects the information annually and collates it to produce reports for member organisations and individual sites. Data submitted through the tool is also used to produce an annual 'sustainability report' for the dairy processing sector and track progress against Dairy Roadmap targets.

Climate Change Agreements

Graph 16: *Energy Efficiency*

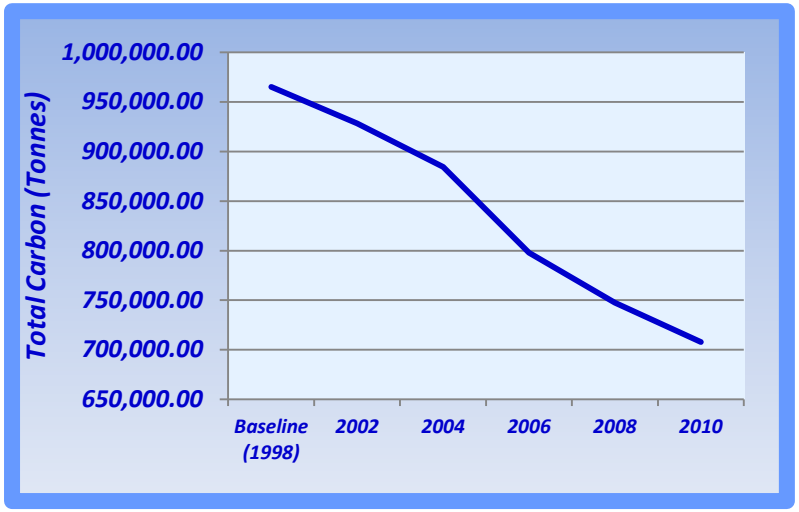


Dairy UK administers the industry's Climate Change Agreement. This saves the industry approximately £5m a year.

Since April 2001, the Government's Climate Change Levy (CCL) has added around 15% to the cost of energy used by dairy processors. However, in recognition of the damage this can do to the competitiveness of energy intensive industries, the Government introduced Climate Change Agreements (CCAs). In return for committing to challenging energy or GHG reduction targets, eligible companies could receive an 80% (since reduced to 65%) reduction on the CCL, thus encouraging companies to reduce their emissions without affecting their competitiveness.

The dairy industry's CCA is managed by Dairy Energy Savings Ltd, which is a subsidiary of Dairy UK. Since its creation, over 150 processing sites have joined the agreement, accounting for over 95% of the milk processed in the UK. The first phase of the scheme called for 22.5% improvement in energy efficiency between 1998 and 2010 with the sector achieving an impressive 27.9% improvement; in absolute terms, this equates to a reduction in CO2 of 257,337 tonnes.

Graph 17*: Total Carbon Output*



The second phase of the CCA scheme commenced in April 2013 following two years of consultation and a lengthy evidence gathering and target negotiation process in 2012. Following Government's initial target proposal of a further 27% improvement in energy efficiency, Dairy Energy Savings conducted a comprehensive energy best practice survey to ascertain the actual level of energy reduction potential remaining in the sector. With this evidence an agreement was reached with Government for a reduced target of 13.6%.

Federation House Commitment Partnership

The Federation House Commitment (FHC) is a responsibility deal, managed by WRAP (Waste & Resources Action Plan). It aims to help companies in the Food & Drink Sector to reduce water usage within their company and, by doing so, to help work towards an overall sector-wide water reduction target of 20% by the year 2020. As part of the dairy sector's commitment to continue to reduce water use, Dairy UK formed a partnership with WRAP and the Federation House Commitment. The aims of the partnership are;

• To reduce data submissions for members – Dairy UK collects the required information for its Environmental Benchmarking tool and, as such, the partnership has already reduced the administrative burden of members

• Through publicising and encouraging new members to join the commitment, to give greater dairy sector access to the free consultancy services that are available to members of the FHC

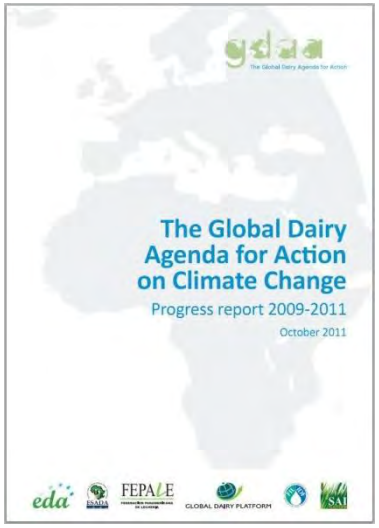
• To use the FHC to help further progress towards Dairy Roadmap water reduction targets and provide publicity on the dairy sector's continued commitment to reducing its environmental impact

• WRAP has committed to provide dairy sector specific training and workshops for Dairy UK members that sign up

Information on the Federation House Commitment can be found at **http://www.fhc2020.co.uk**

UK Dairy Industry and International Environmental Commitments

The dairy industry, both in the UK and in other leading dairying countries, has united in its commitment to the continuous reduction of the environmental impact of its products. At the forefront of this commitment is the Global Dairy Agenda for Action, signed in Berlin in September 2009, pledging the industry to reduce carbon emissions through the following five actions:



- Promote the development of a standard methodology framework for assessing the carbon footprint of milk and dairy products based on robust science.
- Promote adoption of world's best practices within the global dairy sector.
- Seek to advance the establishment of tools to facilitate measurement and monitoring of emissions both on-farm and in dairy manufacturing.
- Promote improved farmer understanding of agricultural emissions and opportunities to reduce greenhouse gas emissions on farm.
- Support sharing information and aligning research efforts to develop cost effective mitigation technologies for both on-farm and manufacturing application.

The Agenda for Action can be viewed online at http://www.dairy-sustainability-initiative.org Further to this, a 'Green Paper' has been created by the International Dairy Federation to provide evidence of the global dairy industry's commitment. The Green Paper catalogues initiatives illustrating the continuous improvements already made and in progress along the whole of the dairy supply chain.

Commentary: The Dairy Roadmap
Kate Allum – Chief Executive of First Milk
Chair of the Dairy Roadmap

The UK dairy industry is committed to the continuous improvement of its environmental credentials, and has been at the forefront of the agri-food industry in recent years with regards to the drive towards environmental excellence. Nowhere else in the world has the dairy supply chain, from farmers right through to retailers, come together to agree such a broad programme with challenging environmental sustainability targets. We know there are cases of companies around the world undertaking supply chain projects or focussing on the environmental performance of their sites, but the Roadmap is unique in ambition, scope and range of partners.

We started in 2008 as the Milk Roadmap focused solely on the liquid milk sector. We published a further report in 2009 before expanding the Roadmap to cover total dairy production in 2011. 2013 sees the publication of a new report which includes both new and revised targets; this reflects that we are constantly developing what we do on environmental responsibility. With each report, the ambition and reach of the industry has grown and this is reflected in the way the Roadmap has developed.

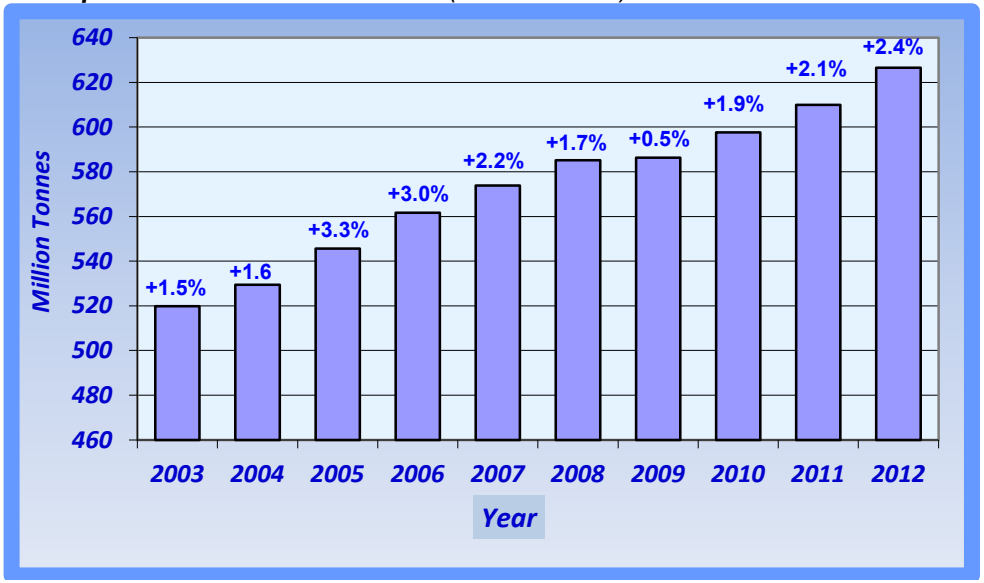
Dairy farmers and dairy manufacturers have made excellent progress against the tough targets we have set for ourselves, but there are still some areas where we have work to do. Retailers have publically supported the Roadmap and have provided specific steps that they are taking to support achievement of the Roadmap's actions. There is no end point, no finish line on environmental sustainability and we will continue to challenge ourselves to keep progressing in this area.

WORLD DAIRY TRADE AND FUTURE PROSPECTS

World Milk Production

Growing demand is putting world milk production on an upward trend. Over the past nine years the average annual rate of growth has been 2.2%.

Graph 18 – *World Milk Production (million tonnes)*



Source: FAO

Around 38% of world milk output continues to be from the 'informal sector' where milk produced by very small farmers is either consumed on the farm or marketed locally. The shift away from the informal sector towards milk being delivered to dairies for processing is one of the main underlying trends in the global dairy industry.

Growth during 2012 is estimated at 2.4%. Much of the expansion during 2012 came from Asia with rising domestic demand in China stimulating production. Higher prices on international markets and favourable pasture conditions encouraged production in Oceania, with two consecutive years of above average rainfall improving pastures resulting in New Zealand having a record year for production. Dairy herd expansion in the United States also contributed to the higher volumes.

Milk Production by Country

Table 14 - *Summary of Major Milk Production Forecasts for 2012 and 2013 (million metric tons)*

	2010	2011	2012 forecast	% change 11/12	2013 forecast	% change 12/13
Australia	9,327	9,562	10,015	+4	10,135	+1
EU-27	135,472	138,219	140,000	+1	140,700	+1
China	29,300	30,700	32,500	+6	34,380	+6
New Zealand	17,173	18,965	20,348	+7	20,400	+1
United States	87,474	89,015	90,560	+1	90,600	...
Total	278,746	286,461	293,423	+2.2	296,215	+1.2

Source: USDA

Overall global production during 2013 is forecast to rise by the OECD by 2.3%, a higher rate than the recent average, with Asia expected to account for most of the increase.

Structure of the World Market

Exports

Milk and dairy products are largely consumed in the region where they are produced. The tradable surplus for any country is generally a fraction of total production, with the exceptions of Australia and New Zealand. Consequently, the world market remains relatively small compared to total global production, accounting for only around 7% of world output.

Table 15 - *Pattern of World Trade 2012 (volume of product exported and % of milk production)*

Volume of Product Exported (Million Tons Milk Equivalent)		% of Domestic Production
New Zealand	17.5	88
EU	12.5	8
USA	5.2	6
Australia	3.2	34
Belarus	2.2	33
Argentina	2.1	18
World	53.7	7

Source: FAO Food Outlook

Imports

Table 16 - *Major Dairy Commodity Importing Countries in 2012*

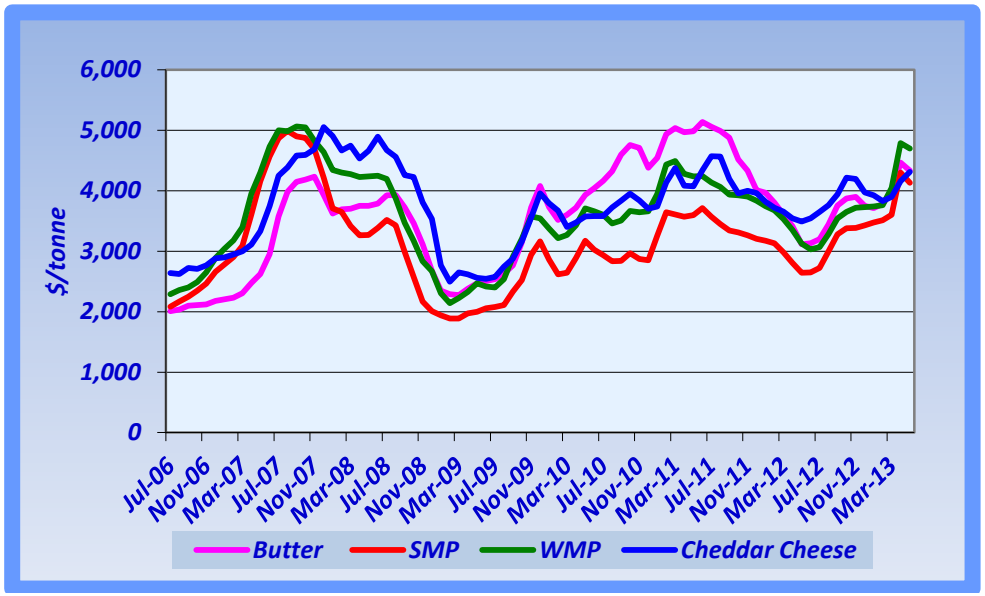
Volume of Product Imported (Million Tons Milk Equivalent)		% of World Imports
China	6.5	12
Russian Federation	3.0	7
Saudi Arabia	2.9	5
Mexico	2.6	5
Algeria	2.5	5
Venezuela	1.9	3

Source: FAO Food Outlook

In 2012 China increased its overall share of dairy imports, driven by increased volumes of butter, cheese and milk powders. The Russian Federation, as the largest cheese importer, moved into second place behind China in terms of dairy imports and Venezuela increased its presence in the global market through its bilateral agreement with New Zealand.

Price volatility has become a major feature of the market, with prices surging to record levels in 2007, subsiding in late-2008, recovering to peak again in mid-2011, falling away as increasing supplies had a negative effect on the market and then picking up again strongly to peak in early 2013 as the lack of milk in Oceania led to concerns about the level of future supplies.

Graph 19 - *World Dairy Commodity Prices*



Source: DairyCo

Trade Policies

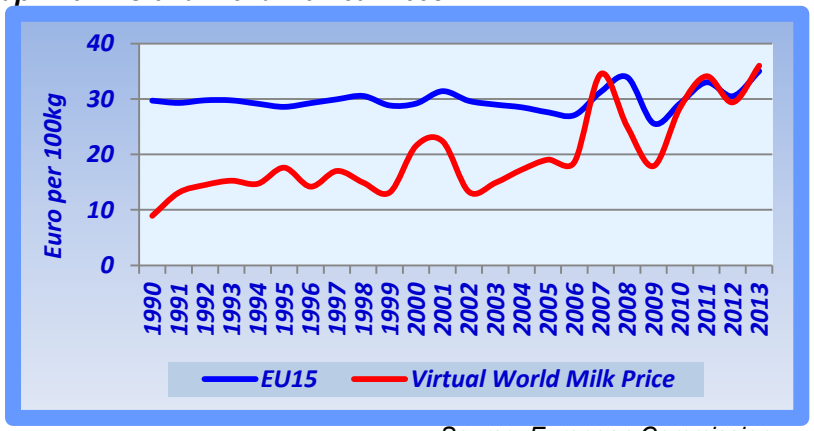
The underlying rise in global dairy prices has made the trade policies pursued by the major producing regions less important in determining world prices. Whilst the USA and EU still maintain relatively high import tariffs, the large exportable surplus generated by these regions, and the declining use of export subsidies, means that these regions are now directly subject to world market price trends.

A further WTO agreement would go some way to consolidating the reduced importance of trade policies on the world market, but the talks have stalled and it is uncertain when they will resume, if ever.

EU and the World Market

EU and world market prices have converged. As a result the EU no longer relies on export subsidies to manage its relationship with the world market. The surge in world prices in 2007 allowed the EU to cut back export refunds until they reached zero in mid-2007. They were reintroduced briefly after the subsequent collapse in world prices and pressure from EU Member States. The subsequent recovery in world prices has seen them withdrawn once again.

Graph 20 - *EU and World Market Prices*



Source: European Commission

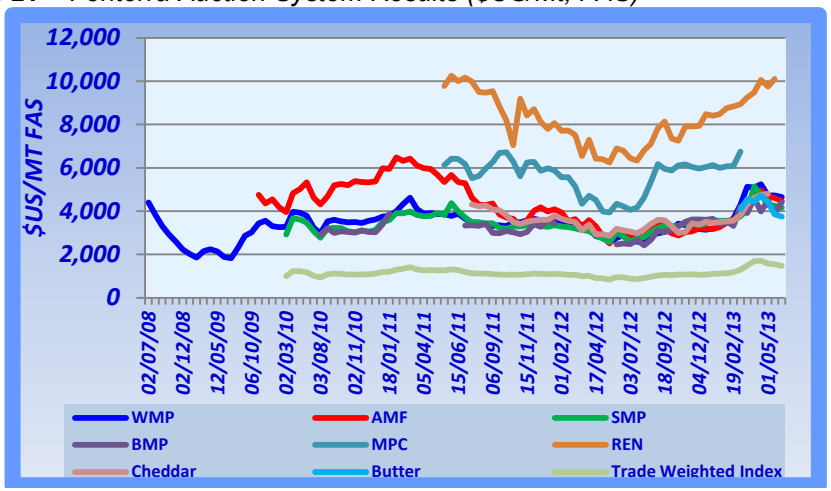
Longer term, the policy of the European Union is to reduce the dairy industry's reliance on all forms of market support, including export refunds. The EU's exportable surplus will be priced competitively with the world market, which will influence the price prevailing throughout the bloc. Greater exposure to the world market will bring with it greater price volatility compared to the stability created by the CAP.

World Market Prices

The electronic auction system for dairy products, operated by Global Dairy Trade on behalf of Fonterra, is seen to set the benchmark price for world dairy products.

The auction started with Whole Milk Powder in July 2008. The range of products offered has been expanded with the addition of Anhydrous Milk Fat (AMF) in November 2009, Skim Milk Powder (SMP) in March 2010, Butter Milk Powder (BMP) in August 2010, Milk Protein Concentrate (MPC) and Rennet Casein (REN) in May 2011, Cheddar Cheese (Cheddar) in July 2011, lactose in April 2012 and butter in March 2013.

Graph 21 – *Fonterra Auction System Results ($US/Mt, FAS)*



Source: Fonterra GlobalDairyTrade

Futures Contracts for Dairy

Price volatility, and the reduced influence of the CAP on market prices, means that there is growing interest in the development of futures markets for dairy products to help the EU industry manage price risk.

Futures contracts are already well established in the USA on the Chicago Mercantile Exchange. Two European exchanges have launched futures contracts for dairy products, but at present only the Eurex exchange is showing any degree of liquidity. However, significant activity in the EU for Over The Counter (OFC) products for dairy price risk management provided by financial institutions has been reported. The Fonterra auction has also allowed the New Zealand stock exchange to develop futures contracts for dairy products.

UK Dairy Trade

UK dairy companies export to the world market, and in particular the industry in Northern Ireland is heavily engaged in doing so.

The actual pattern of UK trade in dairy products is shaped by the following:

- UK milk production is insufficient to meet domestic consumption.
- Fresh pasteurised liquid milk cannot normally be exported competitively.
- Sales of high value dairy products in Great Britain are focused on the market for direct consumption by domestic shoppers.
- Butterfat generated from the manufacture of low fat milks is exported from the UK as bulk cream.
- Raw milk is exported from Northern Ireland to the Republic of Ireland, and a range of milk powders is exported to destinations within the EU and to third countries.

These structural factors mean that the UK's exports tend to be of lower unit value than imports into the UK.

Table 17 - *UK Dairy Imports in 2012 – tonnes*

Product	EU	Non-EU	Total
Liquid milk	115,175	0	115,175
Cream	28,618	0	28,618
Skimmed milk powder	50,331	1	50,332
Whole milk powder	21,762	47	21,809
Evaporated and condensed milk	44,313	29	44,342
Yogurt	141,241	1,224	142,465
Butter	65,930	0	65,930
Cheese	423,310	7,974	431,284
of which processed cheese	51,731	56	51,787
of which Cheddar	95,262	6,505	101,767

Source: Dairy UK

Table 18 - *UK Dairy Exports in 2012 – tonnes*

Product	EU	Non-EU	Total	% of UK production
Liquid milk	85,467	966	86,433	1.2
Cream	66,953	343	67,296	26.9
SMP	16,855	6,964	23,819	44.8
Whole milk powder	17,704	33,725	51,429	144.9
Evaporated and condensed milk	6,718	763	7,481	7.2
Yogurt	26,902	1,372	28,274	10.3
Butter	12,086	2,394	14,480	10.0
Cheese	110,990	14,523	125,513	32.0
of which processed cheese	18,304	276	18,580	51.6
of which Cheddar	36,233	7,876	44,109	16.6

Source: Dairy UK

Future Growth Prospects for the World Market

The growth prospects for dairy are strongly positive. Demand is being driven by population size and economic growth. There is also a strong desire on the part of the dairy industry to move production into new and innovative products that respond to new consumer needs and grow value to the benefit of the whole supply chain.

Consumption Growth

Table 19– *Consumption Forecasts ('000 tonnes)*

	2013	2022	% change
World	**40,938**	**47,033**	**14.9**
OECD	21,789	23,699	8.8
Non-OECD	19,149	23,333	21.9
EU-27	11,511	11,941	3.7
United States	6,353	7,358	15.8
Japan	514	553	7.5
China	2,357	2,901	23.1
India	4,838	6,287	29.9
Australia	497	536	7.8
Mexico	881	1,007	14.4
Sub-Saharan Africa	757	920	21.5
Algeria, Egypt	1,235	1,475	19.3
Brazil	1,616	1,821	12.7
Russia	1,515	1,801	18.9
Ukraine	316	330	4.4

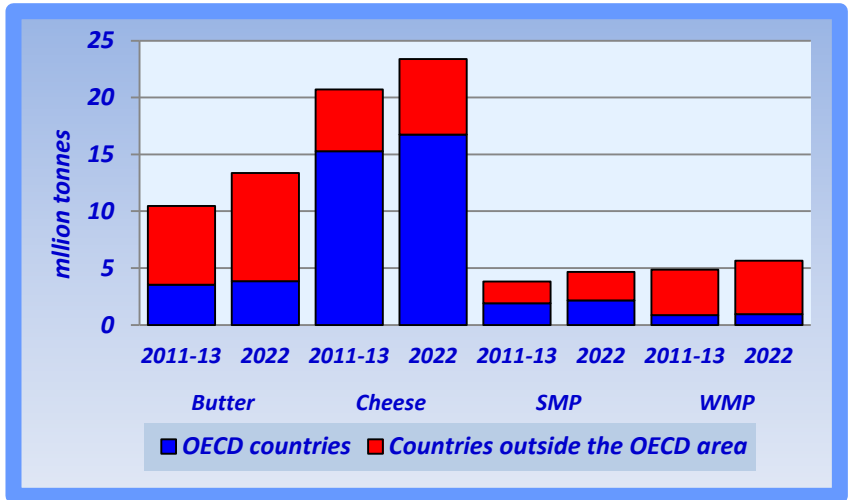
Source: OECD

Global demand for dairy products is predicted to grow by 15% between 2013 and 2022, equivalent to an annual growth rate of 1.8%. This is slightly less than in the previous decade because of the constraints created by higher feed costs and competition for land and water.

Developing countries are expected to account for 74% of production gains over the next decade, with India and China accounting for 38% of the increase. Global consumption of dairy products is expected to grow faster than production with increased exports from the United States, EU, New Zealand, Australia and Argentina. For developed countries, cheese production will increase the most over the next decade.

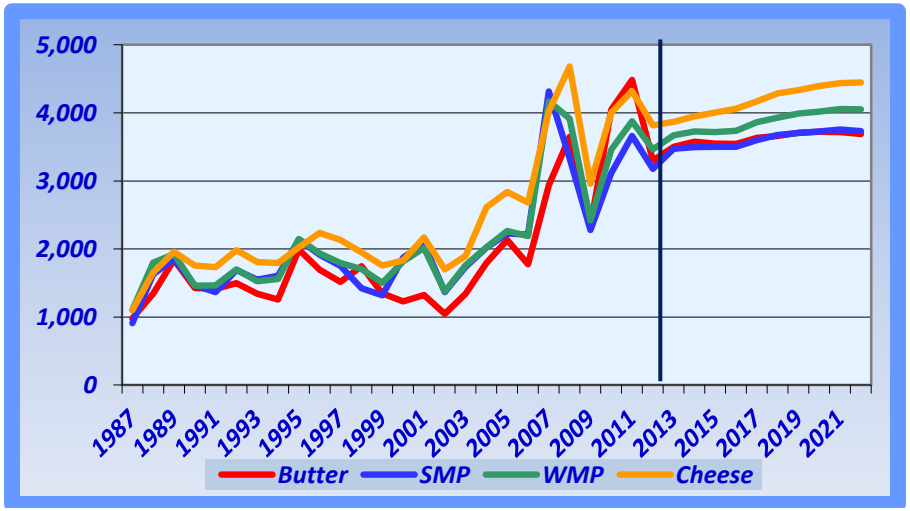
Consumption of dairy products in developing countries is forecast to increase on average at around 2.2% whilst, in developed countries, the rate is projected to increase on average by less than 1%.

Graph 22 – *Outlook for Dairy Product Consumption*



Source: OECD/FAO

Graph 23 *– Trends in World Dairy Prices (US$ / tonne)*



Source: OECD/FAO

According to the OECD-FAO Agricultural Outlook 2013–2022, an upswing in international dairy prices at the start of the next decade is expected to continue with prices in nominal terms firming throughout the 10-year period.

The UK and EU dairy industry can expect to be competitive in the world market place as it can be stated with reasonable confidence that the future global price environment will be at a level that will reward efficient EU producers. This is because supply from the EU still remains crucial to meeting the demands of the world market.

Commentary: The UK Dairy Industry and Exports
Paul Vernon, Chief Executive, Glanbia Cheese
Chairman of Dairy UK Northern Ireland

Although the UK market is the central revenue source for the UK industry, exports represents a huge opportunity for revenue expansion. A growing global population with increasing affluence in key markets such as China is being reflected in increased demand for high quality protein, which, in turn, is stimulating demand for dairy products.

These developing markets, which are in their growth phases in their demand for dairy products, have allowed countries such as Ireland and New Zealand to successfully develop their presence in world markets to the benefits of their dairy supply chains.

That growth in the UK can be facilitated through exports can be seen by the experience of Northern Ireland, where over a third of the region's revenue now comes from exports.

Exports markets have their own particular challenges. This requires business models to be adapted to take account of different operating conditions and the nature of the competitive environment.

Nevertheless, exporting has enormous potential to contribute to sustained growth in the UK dairy industry's revenues. It is confidence in taking this opportunity that is fuelling the expansion of the UK's neighbours, who are straining at the leash for the end of the quota regime. There is no reason why the UK industry cannot share in the same ambition and seize the opportunities that are being made available.

DAIRY UK

Dairy UK represents the interests of the entire dairy supply chain including farmers, producer co-operatives, manufacturers of dairy products, and processors and distributors of liquid milk throughout the United Kingdom. This supply chain approach is unique within the global dairy industry.

Between them Dairy UK's members collect and process about 85% of UK milk production. Dairy UK was established on 1 October 2004 and has offices in London, Edinburgh and Belfast, employing 21 staff.

Although principally focused on providing its membership with information and political representation Dairy UK's activities also include:

- Operation the dairy sector Climate Change Agreement (CCA) through its wholly owned subsidiary Dairy Energy Savings Ltd
- Funding the activities of The Dairy Council
- Operating a Roll Cage Container Repatriation Service, now known as Trolley Team
- Undertaking issues and crisis management on behalf of the industry.
- Taking a lead within the European Dairy Association and International Dairy Federation

For an electronic version of this publication, and for further details on Dairy UK and its activities, please visit our website: www.dairyuk.org. The website includes Dairy UK TV an internet-based TV Channel that highlights the role of the dairy industry. Dairy UK TV features channels for News, Markets and Data, Farming, Nutrition, Product Development, Conferences, the Environment and the Dairy Debate. Each channel will hosts series of videos relating to the topic.

Dairy UK also facilitates www.dairydebate.co.uk which provides a web forum for discussing topical issues affecting the dairy industry.

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