Routes to Profitability: practical steps forward

market information

Milk Development Council
July 2007

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Introduction

In August 2006, the MDC published the report *Routes to Profitability: is reduced milk production the solution?* at the request of NFU Scotland. The objective of the report was to investigate the proposition that a significant cut in UK milk production would result in higher farmgate milk prices and potentially higher farm profits.

As a result of the research and analysis carried out, the report concluded there was no certainty that reducing milk production would lead to the significantly higher milk prices desired by many. However, the report did identify a number of clear areas where an increased focus and sustained effort could – and should – lead to increased farm profitability. These areas were:

- Increased innovation – to differentiate and add value to milk
- More effective relationships and contracts – in order to realise better value at farm level
- Increased efficiency – across the supply chain when compared with competitors

Similar views have been expressed, particularly in Dairy UK's *Where to Now?* and the NFU's Vision paper and its follow-ups. Therefore, the dairy industry's representative bodies have fundamental agreement that there is a future for the UK dairy industry, and on what must be done to deliver that profitable and sustainable future. There are minor points of detail that differ, but essentially there is consensus.

This report – *Routes to Profitability: practical steps forward* – aims to continue consolidating this common point of view and provide additional detail and examples to expand the points made in the first report. It clarifies issues such as farm profitability and potential efficiency improvements, and suggests some specific actions so the industry can continue to build consensus. It also helps to explain why the MDC spends farmer levy funds in the way it does.

It is hoped this report will act as a catalyst to the development of a common vision of the future and a recognition of the issues that the different parts of the industry face. It is also hoped this will encourage the industry to work together in addressing critical issues so that the potential for the profitable future can be fully realised.

Executive Summary

Routes to Profitability **concluded there were a number of actions – focusing on innovation, relationships and efficiency – that could sensibly be undertaken to positively impact dairy farm and industry profitability both now and in the future.**

But while efficiency is a crucial part of the equation, recent survey information shows farmers lack the willingness or confidence to reinvest for the future.

Instead, farmers tell us they first need to see 'action' in terms of innovation and differentiation of dairy products, and better contractual and business relationships, before they would be willing invest further time and energy addressing their individual position. In short, they say they need to know there is a future and equal commitment from other parts of the industry.

To be able to reward farmers better for their products, there must first be enough value created in the market to reward all participants in the supply chain.

To this end, it is important that products are innovated and differentiated to increase sales and hopefully achieve a premium price – one that will encourage the necessary on-farm investment. The UK is still not as competitive at producing added-value products as other parts of the EU dairy industry, even though the last few years has seen the rate of new product launches increasing.

Analysis of the UK market for dairy products suggests tremendous opportunities for domestic innovation. In 2006, the trade deficit rose to £944 million primarily because the UK exported commodity products and imported higher-value, added-value differentiated products.

The British dairy sector needs to decide whether this position is tenable and what it wants to do to reverse this trend. To what extent can added-value products be manufactured in the UK, keeping the extra value within this country?

Differentiation does not necessarily mean new products. It can also mean adding an attribute which is attractive to the consumer and for which he is willing to pay a premium. Regionalisation or provenance is one such attribute, which has the added advantage of being hard to displace.

Finally, innovation needs to be driven forward as quickly as possible if milk processors want to avoid losing any more milk production; the current figures for farm profitability and the MDC's recent report *Farmer Intentions Survey 2007* both suggest that under current situations, milk production is likely to keep falling.

The farmer : milk buyer relationship is another area in which opportunities

exist to improve returns. As differentiated milk supplies evolve, farmers must focus on working closely with their customer to deliver exactly what the customer requires. This may encompass quality, quantity, supply profile or other attributes.

There is considerable evidence to show that opportunities exist to improve the price received within current contracts. However, there is also a need to review the structure and presentation of contracts to remove ambiguity and provide farmers with the incentive they need.

Finally, the UK dairy farm sector is usually considered to be efficient by industry experts from both the UK and other countries. UK dairy farms have some of the lowest costs in Europe, and EU experts expect that as markets continue to liberalise, milk production in countries such as the UK will increase due to climatic advantages – that is, the UK is one of the countries most likely to remain cool and wet.

However, there is still scope to improve cost efficiency on farm, which would give UK dairy farmers an even greater advantage and would allow them to compete effectively against their European counterparts in the future. The significant proviso is that in order to make the commitment to invest in the future, farmers must feel they are adequately rewarded today so that they can make the necessary investment. An additional condition is that the rest of the supply chain must also strive for maximum efficiency so that no part of the supply chain is forced to carry the burden of another part being inefficient.

By focusing on areas such as these it should be possible to encourage improvements in productivity and efficiency, and increase the value achieved over and above commodity milk production. However, such changes will not occur overnight, and will take the form of many small commercial steps requiring commitment, encouragement and collaboration within the supply chain.

A focus on innovation

Introduction

It was identified in *Routes to Profitability* that it is in the long term interests of the whole UK dairy supply chain to have a strong domestic industry which produces competitive added-value products that not only compete effectively with imports, but also have export appeal. This also creates a situation in the market that allows an adequate return to be passed back to farmers through their active participation in helping processors and retailers meet new market opportunities.

The objective of innovation in any sector is to make your product different in order to allow sales in a different market, to increase sales, and to hopefully achieve a premium price. This means you are competing with fewer other suppliers and competing on quality, not just price. This also means you merely have to be competent – rather than excellent – on your cost efficiency.

Obviously there are degrees of differentiation, and the greater the degree of differentiation, the higher the price you can achieve – but often with a smaller market.

Successful innovation requires three fundamental elements:

- Investment in research – to develop products or other differentiation opportunities
- Understanding of the market drivers – eg, consumer trends
- Identification of opportunities – where added-value can be derived from the market.

For example, in the current market some of the major market drivers for new products are health or functional foods, convenience foods (both eaten at home and out of the home), local or regional provenance, and luxury items. Successful innovation will be based on identifying the specific opportunity, understanding the factors that drive that sector both now and in the foreseeable future, and then researching the product for the market.

Differentiation or innovation makes a product significantly distinct. It is of particular importance to the dairy sector because differentiation gives producers more control over the future of the market for the product and the price they are paid; other milk can't easily displace the milk they supply. The extent and stability of this control will depend on the degree of differentiation achieved and the skill with which the product is marketed to the customer.

Figures 1, 2 and 3 show the current utilisation of UK milk. The goal of innovation is to move production away from commodity into the niche and higher value sectors using innovation and differentiation of raw milk and dairy products. However, it must be remembered that the higher value sectors often have higher costs, and each sector may be relatively small.

Figure 1: GB market for liquid (raw) milk – by farmgate price

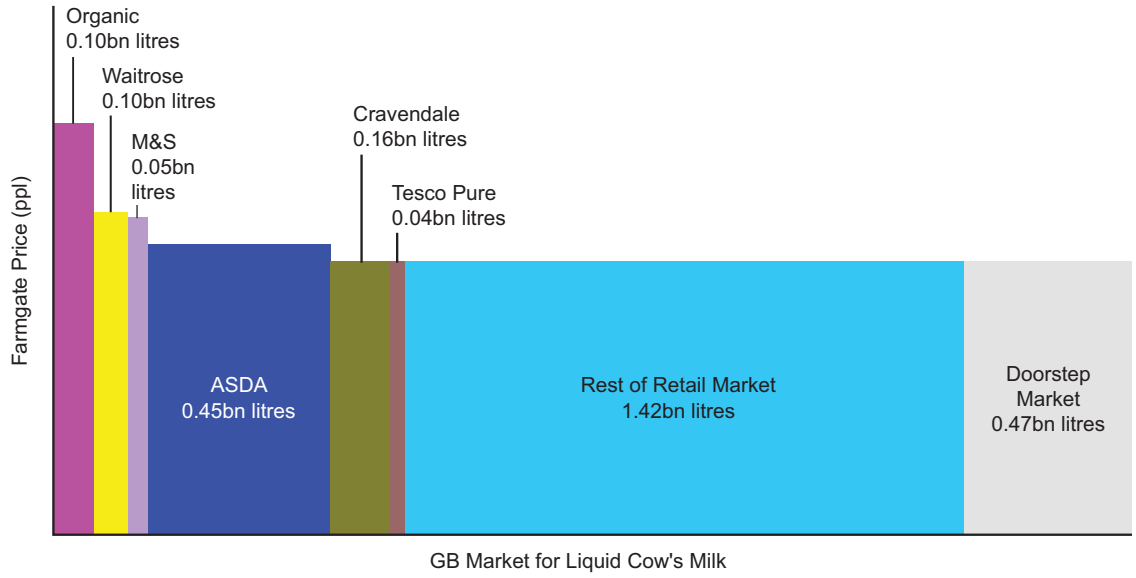


Figure 2: GB market for liquid milk – by retail price

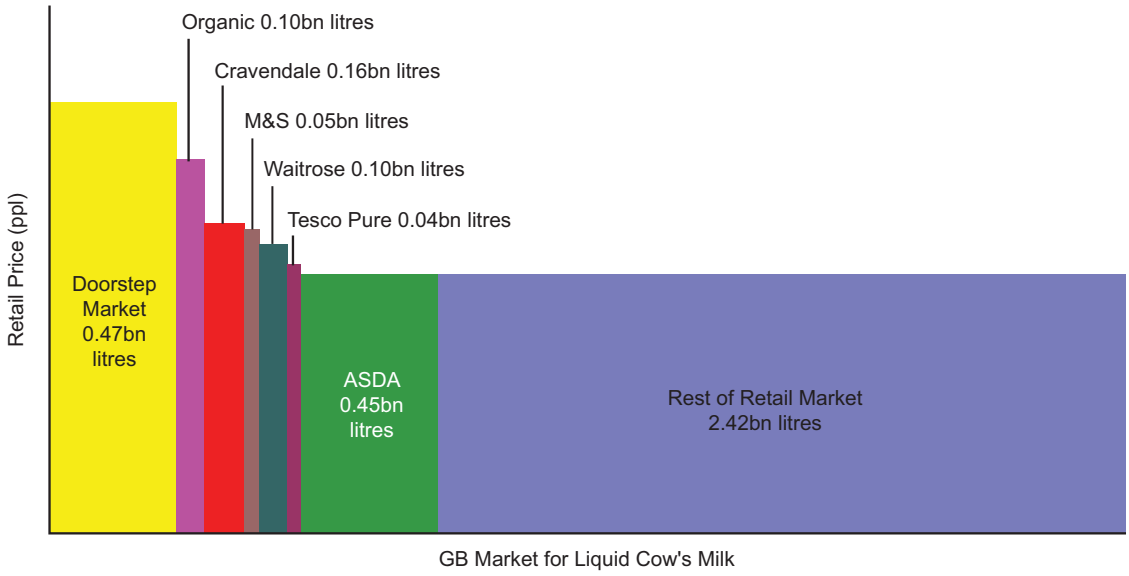
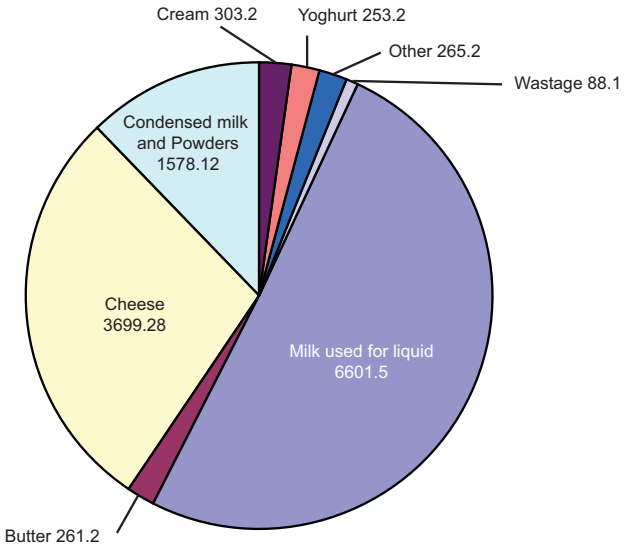


Figure 3: Utilisation of milk by UK dairies (million litres)



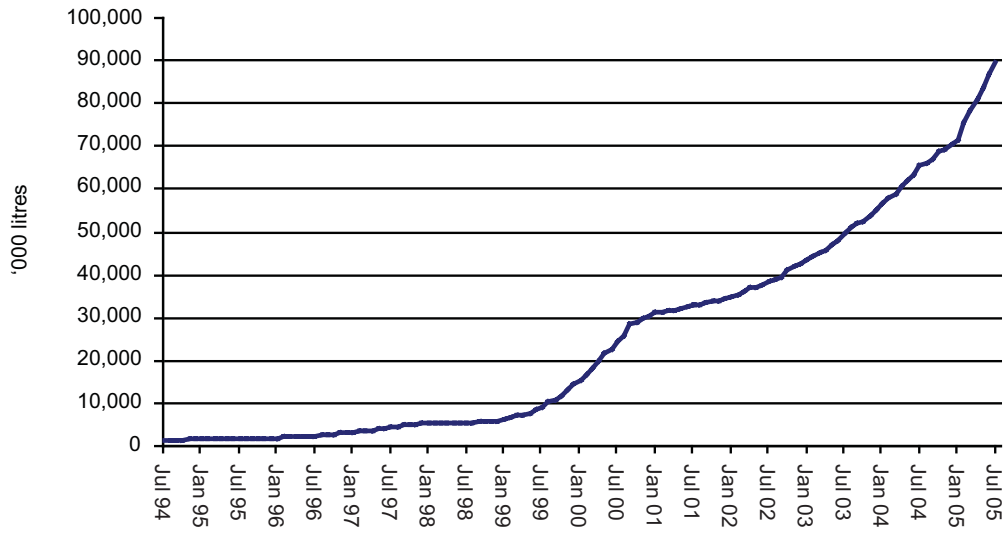
The real value of differentiation is:

- Your product is seen as different
- Your product cannot be undermined by milk destined for the commodity market – it cannot be displaced
- The difference in the product exists in the consumer's mind
- The greater the differentiation, the larger the premium.

Current innovation

There are numerous examples of successful innovation in the UK dairy sector, on a range of scales. Perhaps one of the greatest successes has been in the development of the organic milk sector where a substantial and sustained growth has been experienced for over 10 years (Figure 4). In addition to the growth in liquid sales, expansion has also been experienced in other organic dairy products.

Figure 4: Organic milk volume sales



The organic story is an example of true differentiation with a product which meets certain consumer needs, with the farmer benefiting directly from the extra returns generated from the market.

However, it is a market which reacts to supply and demand. Initially premiums reflected the particular challenges of organic production, but as supply increased, prices fell despite the continuing production cost issues. It is only relatively recently that prices for organic milk have increased as demand has caught up with supply.

Supermarket differentiation

Some supermarkets have recently set out to differentiate the liquid milk they sell. Waitrose and Marks & Spencer were first to develop this area, followed by Asda and more recently Tesco and Sainsbury's. It is possible they will be followed by Sainsbury's in due course. In the case of Marks & Spencer and Waitrose, differentiation focuses on quality with price being less relevant to consumers (although Waitrose charges the consumer the same as the big four retailers). Customers perceive the milk as being of better quality and that the retailer has a more personal relationship with its producers.

This differentiation translates into farmer benefit in a number of ways:

- A better relationship with the buyer
- Greater security of the market for their milk
- Access to other potential high value opportunities eg, Select Farm cream
- Higher milk prices.

However, the farms have to focus on achieving the higher assurance standards which allow the marketing of a quality product, and must still be competitive on costs because while substantial premiums are available, there are limits to the size of any such premiums. It is also important to remember that the higher standards cost more to achieve.

Further examples of successful innovation in mainstream products would include Cravendale and other branded milks. Table 1 shows the sales of some leading branded milks in both litreage and percent of the total market.

Table 1: Liquid milk added-value brands

	Jan-Dec 2005 ('000 litres)	% total market	Jan-Dec 2006 ('000 litres)	% total market	Litreage growth ('000 litres)	Growth %
Total market (excluding soya)	**4,719,701**		**4,682,891**			
Cravendale PurFiltre Milk	138,987	2.94%	157,679	3.37%	18,692	13.45%
M+S Omega Milk	629	0.01%	4285	0.09%	3656	581.24%
St Ivel Advance Milk	5050	0.11%	18,077	0.39%	13,027	257.96%
Wiseman The One Milk	21,466	0.45%	26,828	0.57%	5362	24.98%
Flora Pro Activ Milk	4961	0.11%	4982	0.11%	21	0.42%

In 2006, speciality branded milks accounted for 4.5% of the total – despite being retailed at a price premium. There is nothing to suggest that further growth cannot be achieved and sustained.

In the cheese sector, branded mature cheddar has experienced sustained growth. Interestingly, some of this growth has been as regionally-branded mature cheddar, demonstrating the potential for regional based differentiated products.

At the same time, new product innovation has spawned a range of speciality products such as cheddar with onion and Wensleydale with cranberries. From being seasonal products, many of these are now available all-year-round as demand has grown.

Investment in R&D and marketing

Generally, the priority areas to be explored in R&D and marketing are best determined by commercial companies focused on generating profits.

However, what is certain is there is a very specific need for investment in these areas. Although funding in the industry is tight and many will ask whether they can afford to invest, the real question is can the industry afford not to if it wants a profitable future? In an environment of low profitability, it is important to focus spending on the activities that are likely to have the most impact. It is noticeable that the UK industry does not invest heavily in R&D to stimulate new product development in the same way our European counterparts such as Valio do – probably due to limited capacity and resources. The question is how much this has the effect of disadvantaging the UK.

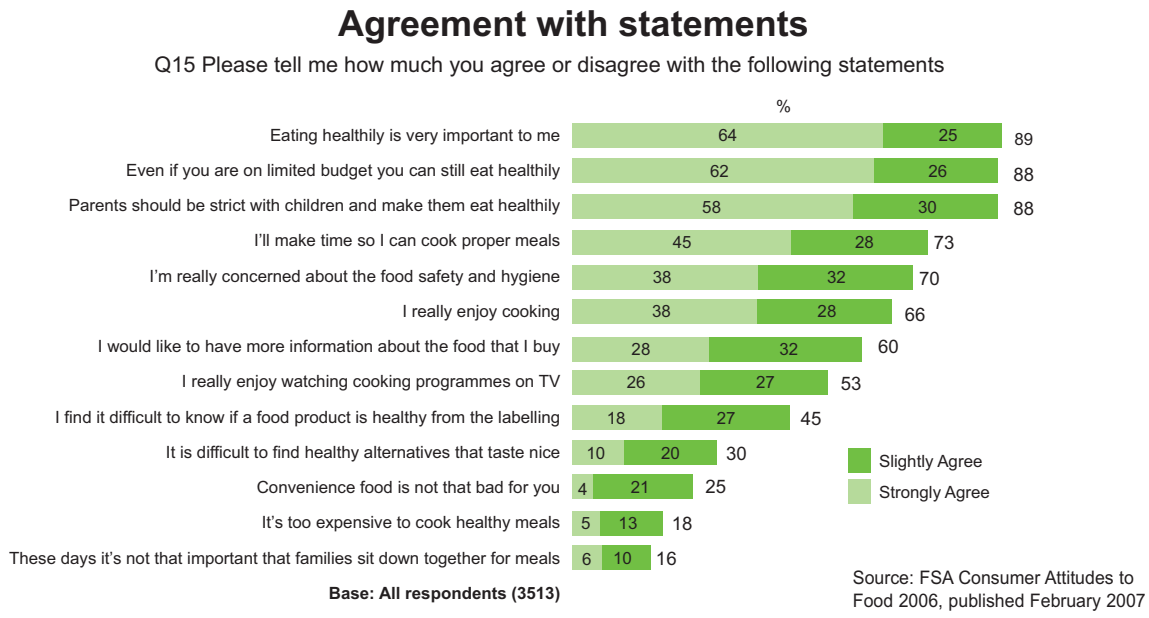
The MDC will continue to support this process by providing access to pre-competitive research into consumer attitudes, added-value and marketing opportunities such as provenance.

Understanding market drivers

1. General health and diet

The 2006 FSA Food Survey says 89% of the public claim eating healthily is important to them, yet just over a fifth of the population are overweight enough to be classified as obese (Source: The Dairy Council). The success of probiotics over the last three years shows how quickly a product with the right health positioning can be adopted when the market conditions are right. Probiotics themselves have been in the UK market for 15 years but recent publicity about obesity and healthy eating, including a focus in popular television programmes, has been behind at least some of the sudden increase in uptake.

Figure 5: Consumer attitudes to health



Many consumers see dairy products as fattening while also seeing them as a good source of calcium and other vitamins – showing a contradiction between what consumers believe is good for them and what actually is. This was reflected in the MDC's 2005 consumer study where the fat content of whole milk was over-estimated by most respondents; the average guess 33% when it is actually less than 4%.

This study also showed massive consumer ignorance about the nutritional benefits of milk and dairy products. Consumers claimed they saw milk as a child's drink for healthy bones and teeth, but did not see milk as part of adult life.

The results also showed there was consistent 'noise' around the negative health impacts – with opinions often formed from inaccurate advice and media scares. However, there was a positive reaction to re-education of respondents. They were amazed at the true fat levels and were interested in the nutritional content of milk. Many claimed that the health benefits provided them with new reasons to consume.

The work suggests that an increased focus is needed on ensuring consumers have the correct information about the nutritional benefits of milk and dairy products – a job which requires the sustained co-operation of the whole industry.

The segmentation study will be updated by the MDC in 2007 to understand how consumers are changing, whether the innovation that has taken place over the past two years has led to changes, and where future opportunities lie.

2. Environmental concerns

The population is becoming far more concerned with the state of the environment and what they can do to combat general concerns such as packaging waste and food miles. The recent launch of milk pouches is an example of the industry using this concern to differentiate a product. The growth in organic dairy sales is another example of consumers choosing to buy products where they believe the environmental impacts of farming are minimised.

3. Provenance

The provenance of products has become increasingly important, allowing for transparency within the supply chain, and the trust this then generates in showing exactly were food comes from. Additionally, the need for authenticity of product is growing, with regional and speciality products becoming better known.

4. Luxury/special occasion

Everyday luxuries, such as premium yogurts or ice creams, are becoming more common and relatively less expensive to purchase as the average disposable income increases.

5. Snacking/out-of-home consumption

The influence of the café culture over recent years will undoubtedly have impacted positively on the amount of milk sold through food service. However, there is still room for growth in this sector, where milk could compete more effectively against smoothies, for example. Snack packs of cheese are more commonly aimed at children to fill the lunchbox, but there is a un-met need in the market for adult products too.

6. Convenience vs return to 'scratch' cooking

Over recent years, among the 'cash rich/time poor' groups, there has been a growth in the purchase of convenience foods which allow the buyer to prepare a meal more quickly.

The entry into the middle ground/convenience stores sector by the multiples has made it easier for consumers to 'top up' on basics every day rather than undertaking a weekly/monthly shop. Some 54% of the population now shops every three days with 13% of these 'topping up' every day; this compares with four years ago when 38% shopped every two to three days and 8% 'topped up' every day. (Source: FSA Consumer Attitude Surveys 2003 and 2006.)

Opportunities

Correcting the trade balance

Analysis of UK trade figures suggests that innovation has tremendous potential to fill current demand for dairy products. The UK has a continually growing trade deficit in dairy products, primarily because of importing added-value products and exporting low-value, principally commodity products. In 2006, the provisional figure for the trade deficit stood at £944 million, more than double the figure in 2000.

Table 2 compares imports and exports by product type; of note are butter imports, most of which are brands such as Anchor and Lurpak, and the figures for cheese where exports are lower-value commodity cheese versus imports of high-value products such as 'soft continental' cheeses.

Table 2: Imports and exports of dairy products 2006

000's tonnes	Imports	Exports	Net
Liquid Milk	43	627	584
Cream	39	96	57
Butter	141	35	-106
Cheese	376	102	-274

Figures 6 and 7 show the trend in net trade. It is interesting to compare the lines for cream and butter in Figure 6. The UK exports low value cream then imports butter which is branded and highly valued by consumers. Had the UK been more innovative in product development and marketing, it is possible that it would not now be exporting cream but instead selling it as premium branded products and returning a better price to producers.

Figure 6: Trend in net UK trade of selected dairy products

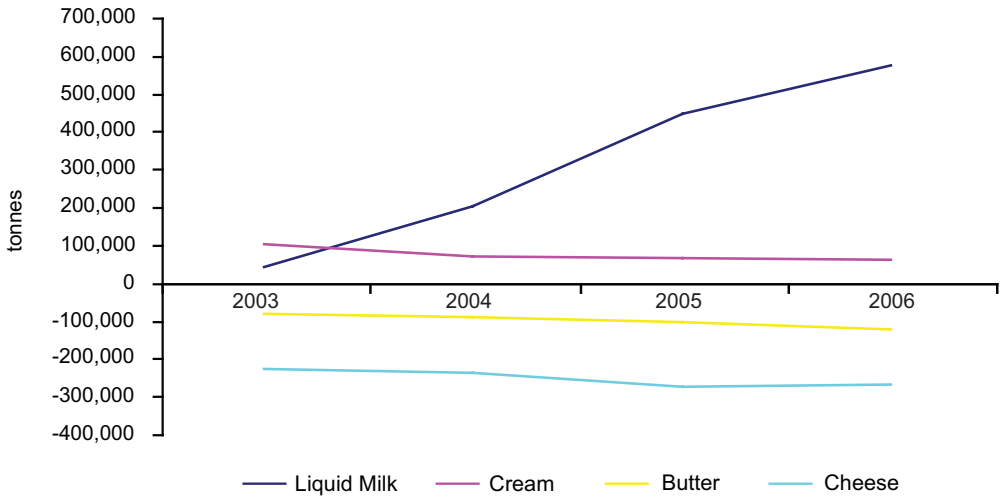
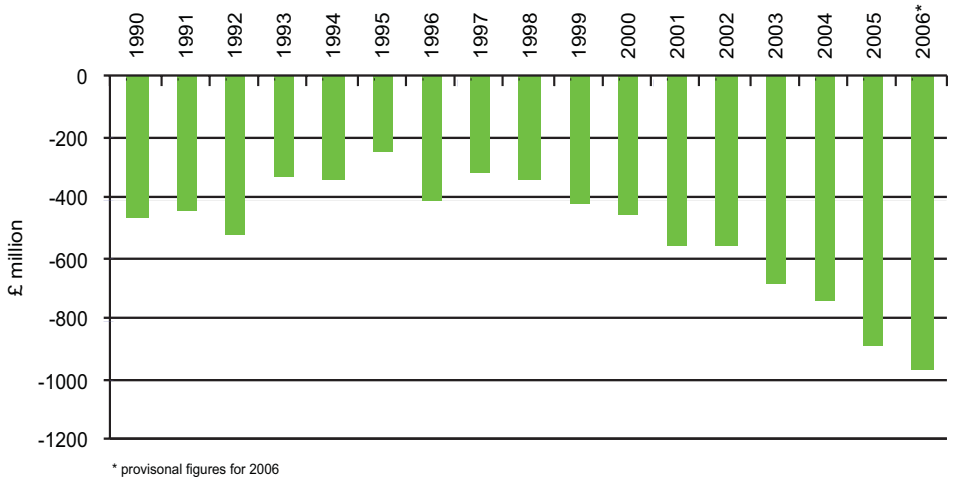


Figure 7: Trade deficit for dairy products



* provisonal figures for 2006

It is important to note that the growths in imports of cheese are almost all in speciality cheeses, not cheddar. Through greater innovation we can potentially replace low value exports such as cream and whole milk powder with home-produced, added-value products for sale in our domestic market or even for export to other countries.

Cheese

Table 3: Growth in imports of different types of cheeses

	Cheddar	Blue Vein	Edam	Brie & Camembert	Fresh	Grated & Powdered	Processed	Others	Total
2006	112,094	5,055	8,433	12,431	112,643	17,661	41,769	63,286	373,372
2005	108,822	4,846	7,474	10,566	90,895	16,338	36,609	76,698	352,247
2004	104,006	4,886	8,720	9,796	87,005	14,221	43,915	60,656	333,206
2003	96,295	5,144	9,072	9,696	75,950	11,633	43,184	67,522	318,497
2002	85,445	6,189	10,535	9,636	65,177	9,815	43,209	57,072	287,078
2001	87,855	4,815	8,601	8,302	57,027	8,247	41,426	55,713	271,986
2000	91,001	4,423	7,927	8,010	52,021	7,341	39,347	50,005	260,075

The marketing activities recently carried out by the MDC on territorial cheeses demonstrates it is entirely possible to create growth when manufacturers of similar products co-operate to maximise the value of the marketing spend.

On average MDC cheese projects achieved 4% growth in 2006/2007. This is ahead of the total cheese market growth of approximately 1.5%. For each 9000 litres going in to making one tonne of cheese, the price premium to farmers is typically around 1.5ppl.
There is evidence of a greater number of farmhouse cheeses being sold locally and an increase in varieties and named cheeses sold through farmers markets and specialist outlets

Consumption of dairy products

The trends in the consumption of dairy products, as shown in Table 4, also signal upcoming opportunities as developments here can signal opportunities.

Compared with many countries, the UK has a high per capita consumption of liquid milk. However, consumption of cheese is lower than in many other countries. Cheese consumption is growing in the UK, and is a large sector worthy of further investment if the current concerns over health claims can be successfully tackled.

The final opportunity for innovation is in growing markets and new sectors. A number of growth market sectors offer considerable promise, many of which reflect changing lifestyles or aspirations; this is a key aspect of innovation – having the right products to match consumer needs.

Not only can trends in other countries provide us with indications for our own market; they can also demonstrate opportunities for exports. As stated earlier, if we can create innovative products, we can also export these into markets thus improving our trade balance.

This is already being explored by some firms who are investing in new product development for both domestic and overseas markets.

Table 4: Gross per capita consumption of milk and milk products in various countries, kg/head, 2004 data

	Fresh Milk Excluding Cream	Drinking Milk	Butter	Cheese
Ireland	191.01	151.46	2.75	6.76
Finland	184.04	157.02	6.97	18.84
Sweden	149.95	132.07	3.93	21.17
Denmark	135.97	105.55	1.85	23.19
Spain	134.46	107.63	1.08	10.46
United Kingdom	126.82	115.59	3.25	9.24
Netherlands	126.36	89.16		21.69
Portugal	113.46	90.39	1.63	9.96
France	98.31	73.98	7.87	24.65
Germany (including ex-GDR from 1991)	94.6	65.67	6.48	20.31
Austria	90.29	78.89	4.64	18.29
Belgium	86.28	69.32	5.13	18.91
Italy	72.59	63.84	2.9	21.74
Greece	71.66	63.33	0.77	25.53

Source: Eurostat 2004

Dairy beverages

The market for dairy beverages encompasses a wide range of products from flavoured milks and milk shakes to yogurt drinks, hot milky drinks and hybrid drinks (containing dairy products and, for example, fruit juices).

However, the dairy beverages market accounts for less than 1% of the total non-alcoholic beverages market in volume terms, a picture that is reflected elsewhere in the world where the majority of countries report a market share for dairy beverages of just under 5%. Table 5 looks at the breakdown, growth and consumption by product grouping.

In 2004 the market for dairy beverages was worth £300 million; it grew by 39% in a single year thanks, in the main, to yogurt drinks. Sales of yogurt drinks grew five times faster than flavoured milks, and 8.4 million households bought them in 2004, an increase of 2.3 million over 2003.

Sales of probiotic drinks then experienced phenomenal growth in 2004 with a 95% increase in volume and a 77% growth in value. The market is dominated by brands such as Actimel, Benecol, Yakult and Muller Vitality.

Table 5: Dairy beverage sales trends

	2004 sales value £M	% value change 2003-2004	2004 volume sales (M litres or kg*)	% volume change 2003-2004	2004 per capita consumption (litres or kg* per annum)	2004 unit sales (M units)	% units change 2003-2004
Fresh flavoured milk	42.7	9	35	17	0.58	50.9	8
Longlife flavoured milk	63.5	5	46.9	-1	0.78	94.3	1
Probiotic yogurt drinks	179.0	77	61.4	95	1.02	99.8	84
Standard yogurt drinks	16.2	20	7.9	16	0.13	17.5	10
Yogurt based smoothies	7.4	3	2.7	30	0.05	4.9	13
Milk modifiers – syrups	9.0	38	3.7	78	0.06	10.9	-10
Milk modifiers – powders	15.6	-4	3.5	-7	0.06	6.8	36
Hot milk drinks – add milk	34.9	5	8.3*	0	0.14*	23.5	3
Hot milky drinks – instant	72.1	11	13.4*	8	0.22*	78.9	27

Yet the UK lags significantly behind other countries. Average per capita consumption in 2001 was 1.5 litres per head in the UK, compared with 8.5 litres in Australia, 13.2 litres in The Netherlands and 38 litres in Austria. By 2004, UK consumption had risen to 2.5 litres per head, demonstrating the considerable potential in this sector.

Dairy beverages are seen by consumers to be a vital part of the total beverage choice and they are well aware of new product developments. Furthermore, high levels of disposable income encourages consumers to not only afford – but also indulge in – wellbeing products, which tend to be more expensive.

Although the market for yogurt drinks is seen as crowded, there is still scope for more targeted products. Benecol, a functional yogurt drink for reducing cholesterol, achieved sales of £13 million in its first year, at a price equivalent to over £7.30 per litre of milk. At the same time, Muller Munch Bunch Drinky – the only significant probiotic drink aimed at children – achieved 200% value growth in a year. It is clear real success can be gained by switching younger consumers out of sugary/fatty/additive-laden drinks into healthier alternatives.

In addition to yogurt drinks, flavoured milks and smoothies, the other potential growth area is in whey-based drinks. Although consumers tend to not understand exactly what whey is, they are reassured by the high protein and vitamin contents.

The Café culture

Coffee shops are another significant growth sector which are becoming a major lifestyle development. There are currently 20 different coffee shop groups operating in the UK, and they are each adding 25-30 new outlets per year, with growth anticipated to continue for another three years. This presents a considerable opportunity for a wide range of dairy products.

The café culture has introduced consumers to a wide range of hot and cold coffee-based drinks, each of which is a potential opportunity for dairy product innovation. What, for example, is the ideal milk for a latte or cappuccino?

Food ingredients

In 2005, consumers spent £35 billion on food and non-alcoholic drinks out of the home, and there are estimated to be 263,000 catering outlets serving 8.6 billion meals. By 2020, out-of-home consumption is expected to satisfy 50% of total household food consumption.

In the coming years the market for chilled products and premium ready meals is expected to increase along with extra demand for sandwiches. Sales of takeaways increased by 5% between 2004 and 2006.

As the market grows, so demand for ingredients will increase, providing opportunities for innovative products and approaches. It is expected that the use of dairy ingredients will grow by 1.1% per annum, but at present the UK produces only 12% of the dairy ingredients used in Europe.

The 'market' in Europe is the top five countries of the UK, France, Germany, Spain and Italy. With the population of the UK standing at 60m out of a total of 301m for these five countries, the UK could be considered to be underperforming by some margin – in fact, providing only 12% against a 20% share of the population.

At the same time as the market is growing, it is undergoing continual consolidation. But despite acquisition, the market is still very fragmented which in itself can present opportunities for supply of products, especially as local sourcing of ingredients is seen as attractive and a potential point of differentiation.

Nutraceuticals

These are products that promote a specific health benefit. Probiotic yogurts are an excellent example of a dairy based nutraceutical, as is omega 3-enriched milk.

Milk naturally contains a large number of bioactive ingredients – compounds which convey a specific biological activity. It is possible to separate out these compounds and use them in functional foods. For example, dairy peptides which result from the breakdown of proteins are known to be effective in reducing blood pressure; Lactoferrin is an iron-binding protein present in milk which has been found to be beneficial in the treatment of chronic disease in studies by Fonterra in New Zealand.

Milk also contains probiotics which are known to have a positive effect on gut health, hence the growth of probiotic yogurts.

As well as utilising the bioactive ingredients already present in it, milk is an excellent carrier for other bioactive ingredients. In the USA work has been carried out to supplement milk with vitamin D which is essential for the absorption of calcium. By increasing vitamin D levels, the rate of calcium absorption is increased, so improving the value of a nutrient already present in milk.

There has also been some success in adding omega 3 fatty acids to milk; omega 3 is associated with both heart health in older age groups and cognitive function in children.

The development of functional foods is certainly an area with considerable promise, although the commercial applications require considerable research, new product development and marketing budgets.

'Regionalisation'

The other most commonly-attempted source of differentiation is the development of local or regional brands based on a geographic area or attribute.

There is clear evidence that consumers are taking an increased interest in the origins of their food and this has sustained the development of regional and local niche markets. Provided the product is of high quality and well-marketed, sales and increased margins can be delivered.

Some of the most successful products have been on a small local scale, eg, Bowland Fresh milk, while others have been on a larger, regional level eg, Devon milk and Cornish Milk. Some have been developed at a small-scale farm level eg, Wyfe of Bath cheese, while other regional products have been developed by the major players such as Dairy Crest and Milk Link.

The initial challenge lies in being able to accurately identify the appropriate brand, and decide whether a chosen brand can be defined as local or regional. Then it's important to determine whether the consumer can relate to the attributes of the region and is prepared to pay a premium for those qualities.

Evidence suggests that the value and importance placed on these attributes varies both by region, and between urban and rural communities. What may be important in determining a local brand in Scotland may not be the same in the South East of England or in Cornwall. For example, Cornish clotted cream is a local product which benefits from the association consumers have with its attributes.

Before embarking on the promotion of a regional or local product it is crucial to ensure the market is receptive to the product and the potential premium it could be expected to fetch. It is vitally important to start with the market and work back.

To help with this process, the MDC has commissioned a significant research project to assess opportunities for the differentiation of dairy products by specific geographical areas and other attributes associated with local or regional production.

Benefiting from innovation

Broadly, there are three ways a farmer can engage in and potentially benefit from innovation.

This is crucial as many farmers see innovation as unrelated to them or that they will not benefit from it.

- Differentiation created on farm leading directly to higher prices
- Differentiation created in farmer-owned processing plant, leading to higher milk prices or dividend type payments
- Differentiation created in non farmer owned plant, higher price paid due to dedicated/specialist supply chain

In addition, differentiation is driving demand for the raw product can in turn help boost returns.

Creating differentiation on-farm

If a farmer is prepared to process and market his or her own milk and add value at the point of production, then they should benefit. Equally, if an additional attribute is added to raw milk on-farm, eg, organic milk, then the farmer should benefit directly from the differentiation even though he does not process the milk himself.

The extent of the benefit will depend on how unique or specific the attribute is and the value the market is prepared to place on that attribute. Together, these will set the premium and the scale of the market opportunity.

Care has to be taken in setting prices. Too high a premium may limit sales and total returns may be boosted by accepting a lower premium but realising higher sales. The starting point must be to assess the potential market. How valuable is the attribute? To what extent is locality a possible source of differentiation?

Farmers considering on-farm processing or producing raw milk that is differentiated for others to process need to be able to define and quantify the opportunity that exists, then assess the level of investment required.

Differentiated supply chains to supply a particular supermarket are examples of differentiation leading to higher prices.

By starting with the marketplace it is possible to be specific about the scale of the opportunity and the process to be adopted before committing to the enterprise. Most of the examples of failed initiatives are based on a product being developed before the market has been researched, leading to problems such as the wrong product, the wrong presentation of the product, or the wrong price.

The MDC has worked with a considerable number of producers to identify and develop market opportunities for a range of products on a variety of scales, and can provide a number of support packages.

Case Study 1: **Sandyknowe Yogurt Drinks, Kelso**

Alistair Stewart runs a mixed dairy and arable farm with other members of the family near Kelso in the Scottish Borders. The farm carries a milking herd of 180 cows.

Concerned at the level of return he was able to achieve from current milk prices, Alistair wanted to look at ways to add-value to the milk. Before producing any product or investing in manufacturing capacity he sought to identify possible markets in the locality. Having identified a gap for additive-free premium quality yogurt drinks, he also determined that there was an opportunity to sell the drinks through delis and other 'food-to-go' outlets.

He then committed to manufacturing three fruit flavours of a natural yogurt drink. The drinks are now available through over 30 outlets in Scotland and other flavours are being added to the range. Alistair is also investigating the opportunities to include yogurt in pots in the range. The move into processing has given him a tighter grip on the profitability and future of the enterprise.

Alistair has won the MDC David Hall Award for On-Farm Business Development and the NFUS 2006 Innovation Award.

Adding value at a factory level through a farmer-controlled business[1]

Many farmer-controlled businesses (FCBs or co-ops) are now investing in capacity to add value to milk and are asking farmers to help in this process by adjusting aspects of their production, such as seasonality.
If the FCB is successful in adding value then the benefits will be returned to the owners – the farmers.

Case Study 2: **Advantages of farmer co-operatives**

There are two advantages to farmers in owning processing capacity:
1) Profits from the processing operation, which can be measured for return on the amount of capital invested in the same way as for any business be it private, PLC or co-op
2) Farmers get the best milk price possible from that venture.

Farmer co-operatives have often been set up where there has been little demand for the farmers product – eg, in a remote region with only one milk processor. In this situation of minimal competition, farmers usually find themselves in a weak negotiating position. By forming a co-operative and investing in processing, they can potentially access markets with processed products that their raw milk cannot, and this gives the farmers the potential to gain a better return in terms of milk price, plus a return from the processing part of the business.

1 Farmer Controlled Business – in this case the term Farmer Controlled Business is used to represent a business where the profits return to farmers because the own all or part of the business. Farmers do not necessarily need to be the ones making day to day decisions.

In regions where there are many milk buyers all producing added-value products, there is probably less need for co-operatives to fill the role of maximising milk prices as the natural demand from many buyers will keep farmgate milk prices strong. Of course, farmers may still want to invest in processing either as a co-operative or through shares in a PLC if the return on that investment is suitably worthwhile compared with other investments, or to have greater control over their destiny.

Working closely with a PLC or private processor

There are now examples of how farmers are benefiting by working closely with a PLC and receiving a higher price – although this is not always the case. A good example would be producers in Cornwall who are supplying Dairy Crest specifically for the production of cheddar at the Davidstow creamery. Dairy Crest receives a higher price for a premium branded product and this is reflected in the milk price paid to farmers.

Case Study 3: **Dairy Crest, Davidstow**

Davidstow is owned by Dairy Crest, producing around 45,000 tonnes of premium cheddar each year sold under the Davidstow and Cathedral City brands. Milk is supplied from 400 farms in Devon and Cornwall.

Reflecting the needs of the creamery and the key attributes of milk destined for cheese production, the Davidstow contract is constituent-based with a set rate for fat and protein percent. However, the contract also includes a bonus system based on the ratio of fat to protein, a key determinant of cheese yield. A further bonus is based on a six-month rolling daily production profile, designed to deliver a level supply to the dairy, which is crucial for efficient operation in the processing plant.

Working with a dedicated milk field – all members of which are paid under the same contract – Dairy Crest sought to help farmers make the most of the money available within the current contract terms.

Benchmarking the milk price achieved under the contract showed that farmgate price varied by up to 3ppl. Farmers achieving the higher prices were more successful at supplying the right mix of fat and protein, with a low somatic cell count and a tighter control of the milk profile.

As well as identifying the opportunities that exist to increase milk price within the current contract, Dairy Crest has encouraged farmers to benchmark production costs within the MDC Dairy Business Groups. By adopting this approach, producers are being helped to achieve better margins while Dairy Crest is able to buy more milk that matches its requirements.

Inward investment

Developing market opportunities is not a cheap business; it requires investment of funds and intellectual capital (in terms of research), new product development, and brand and market development. In recent years, numerous overseas concerns have sought to invest in the UK dairy industry.

From a farmer's perspective the source of finance to develop a market opportunity is not the issue. Domestic or inward investment from the industry is equally acceptable so long as it happens, and there is enough of it to provide higher value outlets for raw milk.

However, the investment will need to return a premium to the producer if it is going to be of real significance. If the investment leads to competition on quality attributes, then the price paid is less of an issue and the farmer should potentially be able to receive a better return. As set out earlier, there are three ways farmers can benefit from investment in added-value products. In the case of inward investment, farmers could benefit if the incoming company either partnered an FCB, or if it was prepared to pay a premium price for milk because of its well-developed product portfolio.

If the investment is into an FCB then farmers should recoup value through better returns to the members. For instance, there may be opportunities for UK companies and co-ops to undertake joint ventures with overseas companies to take advantage of technology and products which already exist in other markets. Or for instance, EU co-ops such as Valio have large scale research programmes and many innovative products. Could they offer opportunities for joint ventures that introduce new products to the UK? This is an interesting area where organisations such as English Food and Farming Partnership can play a role.

For dairy processing businesses, the UK appears to offer a number of potential advantages. On the milk production side the UK has a climate and farm structure more conducive to milk production than many other countries in the EU, making it a good source of raw milk. On the processing side of the equation, the UK continues to import increasing quantities of higher-priced, added-value dairy products to fulfil domestic demand, which could potentially be manufactured in the UK.

Overseas companies such as Campina, Friesland, Danone, Arla, Kerry and Valio, etc. could potentially enter the UK market. Arla has already done so via the purchase of Arla UK. It has invested hugely in research and generally has heavily-branded product ranges.

Nevertheless, the overall track record on inward investment into the UK market has been mixed at present:

- Waterford, Golden Vale and Avonmore all bought into the UK liquid milk market and have all since withdrawn.
- Glanbia invested heavily in mozzarella production and has sold 49% of the business to American concern Leprino, which has since introduced new technologies.

- The UK yogurt market used to be supplied by domestic manufacturers such as Express (Ski) and Unigate (Shape). Dairy Crest formed a joint project with Yoplait but the Yoplait branded products were manufactured in France. Shape was sold to Danone, which moved manufacture back to France while Ski was eventually sold to Nestle.
- While Muller's entry into the market can be deemed a success as it gained a 30% market share, this inevitably put pressure on all other brands. Its success was based on new taste, new format, new size and a new heavily-promoted brand backed by low-cost manufacturing. Farmers have benefited from better than commodity milk prices, but prices have not been as high as other alternatives.
- Lactalis is a significant French cheesemaker which expanded by buying up successful businesses like McLellands and running them independently. But it will want to invest profits into businesses which can generate further profits that can be returned to France. However, the more added-value its product ranges are, the more prepared it is likely to be to pay premium milk prices.

The reality is that inward investment has had some successes, but also some failures. The companies that have succeeded, such as Muller, managed to create something new:

- New products
- New package sizes
- New formats
- New brands.

Inward investment is not a guarantee of higher prices for farmers. For inward investment to be a success from a farmer's point of view, it requires the investor to bring something truly new and added-value, and that investor needs to be prepared to pay a premium price and/or work with a partner such as an FCB.

It must be remembered that these overseas companies are driven by the objectives of shareholder value and growth (be they overseas farmers or investors). Consequently, investment will be driven by return on investment rather than a desire to pay suppliers more, especially in a market where the supermarkets have developed such a powerful position. However, where the inward investor can create additional value, there is a chance that in the right circumstances some of this can find its way back to farmers.

With the advantages of comparatively efficient milk production and growth in many added-value sectors, the UK market will continue to attract the interest of inward investors. Any company that is able to gain a meaningful understanding of the UK market and is able to bring added-value products, production efficiency and partnership-type approaches resulting in increased returns to producers, should be welcomed.

Maybe the biggest benefit from significant inward investment would not be higher prices, but the boost to confidence that a large-scale plant investment would give to the industry, making farmers feel needed and encouraging competition for milk suppliers in Britain.

Building meaningful and sustainable relationships

Introduction

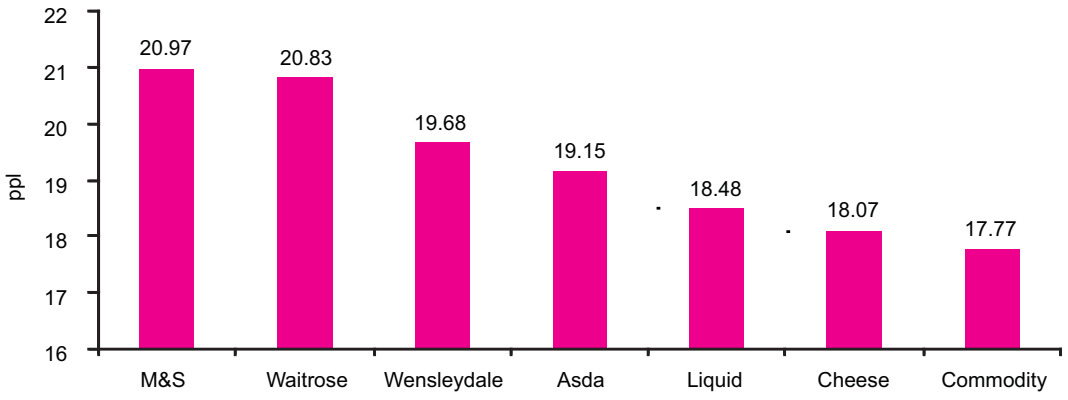
If more value is created in the dairy market through innovation, then supply chains also need to function effectively to ensure that appropriate profits are returned to all. That is why co-operative, mutually beneficial relationships are another crucial element in creating a profitable future for dairy farming.

The bedrock of these developments will be meaningful relationships between dairy farmers and dairy processors or retailers in the form of effective and relevant milk contracts. Each has to recognise the principle of mutual need. Neither party in the relationship has a business unless both are efficient and profitable, and they need to work together to achieve this.

Better prices

There is evidence to show that businesses in more effective relationships achieve better prices.

Figure 8: Weighted average contract prices 2006



The key issues in effective relationships are:

- An adequate information flow – so all parties are accurately informed
- Transparency and trust
- Mutually beneficial and supportive contracts

Although relationships have undoubtedly improved in recent years, there remain some barriers.

Farmers and their representatives must ensure they have sufficient information and understanding to avoid asking for unreasonable things, but also to challenge any practices that may need to change.

The importance of good and transparent relationships is clear when it comes to milk prices and milk supply.

The previous belief of the industry was that complaints from farmers about milk prices were precisely that – complaints and nothing more. In the past this was probably correct; a percentage of farmers complained while another more efficient percentage expanded and replaced leaving farmers. The adage that low milk prices merely drove the inefficient out and helped the efficient expand was probably predominantly correct.

However, the figures below hopefully make it clear that this probably does not hold true any more, with too few farmers able to justify investing in their business to replace leavers.

Farm profitability

The MDC 2006 farmer intention survey highlighted for the first time the true extent of lack of investment in the dairy industry, with 71% of farmers intending to invest less than £25,000 over the next five years, and the majority of these investing the same amount in the past five years. The 2007 survey revealed this percentage had increased to 77% intending to invest less than £25,000 over the next five years.

In addition to financial investment, increases in efficiency require an investment in time and effort, and before embarking on a major programme a farmer will need to understand the expected returns. Many will also require some form of incentive to make the decision. Milk prices can act as a significant incentive if they allow a respectable return to be achieved, hence the need to provide innovation and better relationships to stimulate a focus on efficiency.

Data calculated from the results of the Defra Farm Business Survey (FBS) clearly demonstrate the lack of incentive provided by current levels of milk price. Table 6 shows the performance of farm businesses participating in the survey, separated into bottom 25%, top 25% and average performance.

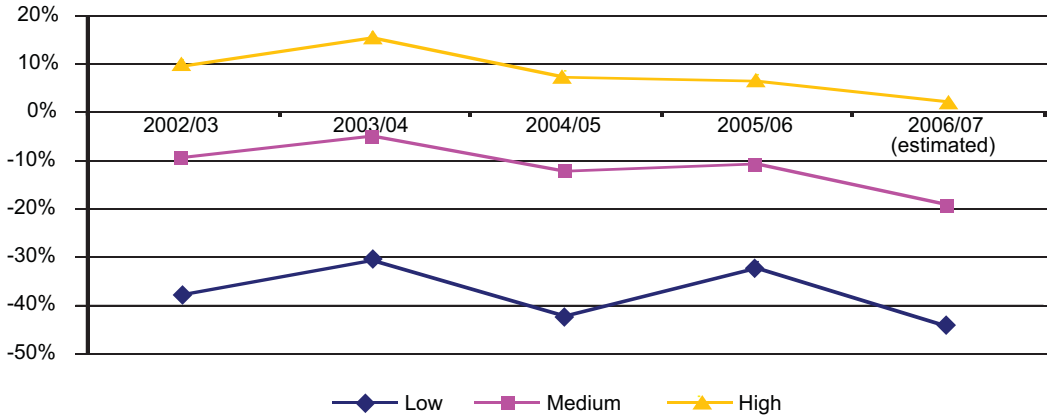
Table 6: Measures of farm profitability by profitability bands

2006/07 Estimates	Bottom 25%	Average	Top 25%
Farm profit	-£39,082	-£31,117	£5,798
Return on tenant capital	-45%	-19%	2%
SFP/Environmental payment	£8,689	£16,245	£23,756
Total ROI	-35%	-9%	11%
2005/06 Performance band			
Farm profit	-£35,545	-£22,669	£21,861
Return on tenant capital	-32%	-11%	6%
SFP/Environmental payments	£8,689	£16,245	£23,756
Total ROI	-24%	-3%	13%

Source: Defra, MDC – includes family labour, depreciation, and rental charges for owned land.

The data shows that all but the top 25% experienced a financial loss in 2005/06 when Single Farm Payments (SFP) and environmental payments are excluded from the figures. Similarly only the top 25% made a return on investment (ROI), although this figure has fallen from a ROI of 10-15% in recent years (Figure 9).

Figure 9: Trends on return on capital trends on return on investment before subsidy and by performance band



Most dairy farmers considering investment seem to be basing decisions on the milk price alone, for the simple reason that all the messages coming from Defra and the EU are that Pillar I subsidies such as the SFP will decline over time.

With the uncertainty surrounding the SFP – both in structure and amount – farmers will be basing investment decisions on the predicted return on investment without subsidies. The acid test will be 'can a suitable return be made on the basis of the milk price being paid?' with subsidies being excluded from the calculation as there is no certainty regarding their future.

Unless farmers can see a realistic return it is unlikely that significant investment will be made. Recent low returns achieved are unlikely to act as a sufficient incentive to encourage further investment in dairy farm businesses.

In fact, this is already becoming apparent. Milk production is not falling because more farmers are leaving the industry; the percentage leaving is remaining constant compared with the past. What is different is that the most profitable farmers, who have expanded in the past, have seen their profits decline to a level where they do not feel they can justify investment and expansion. This means there are simply not enough farmers expanding to replace those leaving, as occurred in the past.

Anecdotal evidence suggests many large farmers who have recently quit may have still been profitable at that point, but not as profitable as in the past, and left because they could find a better use for their assets in other businesses, eg, conversion of farm buildings to storage.

The 2007 farmer intentions survey revealed the dairy farmers that had already diversified their business or who operated mixed farming enterprises were more likely than those with dairy only businesses to intend to leave the industry within the next two years.

Milk prices – competition

A crucial part of relationships, particularly with the findings above, is that the industry must have a mutual and reasonably consistent view of the competitive pressures of the market place, and of what will drive milk prices if relationships in the industry are to be positive.

It has clearly been shown by earlier work that for raw milk, commodity prices in the EU will drive milk prices in the UK unless the milk is in a differentiated market. In turn, EU commodity prices will be driven by supply and demand in the EU and world markets. This link is broken if milk supplies are differentiated. Current high world prices are leading to rising prices in the UK.

In a competitive market where prices are not determined by the price achieved by commodity markets (eg, if Britain produced no commodity milk, or if you were operating in a differentiated market such as organic milk), the driver for milk prices would be supply and demand. This may manifest itself in many different pricing models and buying/selling relationships in different markets.

In any given market the price paid will be determined by the costs of the marginal producer[2] required to fulfil the demand – if the market operates efficiently. This can be thought of simply as the fact that the buyer will pay whatever they need to get all the milk they need, but no more. This process can be interrupted for periods of time in some markets by various factors such as political intervention etc.

To secure the supply, the buyer will pay a price which encourages the last marginal producer needed to supply that market – in essence the price which that producer will accept to remain in production. It is perfectly possible for the marginal producer to choose to accept a price below the economic cost of producing the additional supply of milk. However, if this is done, in the longer term the business will collapse unless the producer subsidises milk production with another enterprise or non-farm income.

On the other hand, producers who achieve a lower cost of production than the marginal producer will generate a higher profit from the same milk price, and will therefore be able to expand. If they expand to supply more of the same market, then the market price will be driven down because the total supply is fulfilled by producers who can accept a lower price and remain in production.

This is competition and it needs to be recognised that although differentiated supply chains and accessing higher value markets can reduce the competitive pressure, competition will still exist in some form.

2 The marginal producer is the one that supplies the last litre of milk to a market.

Pricing/business strategies

There will always be pressure on milk prices where the main focus of the competition is price rather than service or quality. This is because no milk buyer will want to pay a price significantly in excess of competitors as this would increase their own costs and make them less competitive within their own market.

In this context of competitive pressure, there is sometimes a focus on what the top 10% can achieve in terms of cost of production. However, this is not really a useful indicator of a market-driven milk price. The market could not deliver a long term milk price on which only the top 10% could make a profit; such a price would provide no incentive for others to improve efficiency as they would be likely to decide the effort or investment was excessive.

While all farmers appreciate the need to maintain or improve levels of efficiency by controlling costs, delivering improvements can be a slow process and often requires investment in the business – sometimes on a considerable scale if a significant expansion or redesign is required.

If buyers want to secure milk supply, the market needs to drive milk prices to a level at which they encourage a sufficient proportion to invest and improve efficiency, not just the top 10%. Production would almost certainly fall significantly if only the top 10% were able to produce profitably, as insufficient farmers would expand to replace leavers – and this would put some milk buyers in a difficult position in the longer term. Any milk buyer purchasing for use in an undifferentiated market (eg, liquid milk), which bases its competitive strategy on pushing down the farmgate price of milk, is likely to suffer problems.

Reductions in the price of milk by one buyer will only be met by similar reductions by competitors, giving no long term competitive advantage. In addition, the process of pushing prices down too far will prevent supplying farmers from expanding and improving their businesses.

Furthermore, a price-focused business strategy is likely to lead to much management time spent dealing with protests and difficulties, while a strategy focused on added-value (while ensuring competitiveness on cost and price) is likely to pay greater dividends in the longer term.

Those businesses focused on differentiating milk supply and developing added-value markets supplied by efficient farmers, which are producing the right type of milk for the end use, are likely to be the ones that prosper in the longer term.

The influence of retailers

The most recent development in this area has been the announcements made by major supermarkets who want to work more closely with farm suppliers. They are demonstrating a clear focus on developing differentiated and added-value markets.

Waitrose, Marks & Spencer and Asda have all had established dedicated supply groups for some time. Recently two other major retailers have announced significant initiatives.

Sainsbury's – whose milk is supplied by Dairy Crest and Robert Wiseman Dairies – has set up Dairy Development Groups. These groups involve 450 dairy farmers which supply the supermarket's 420 million litres of milk and, with the support of the supermarket, they will aim to help members achieve higher levels of profitability through innovation and efficient projects. In addition, Sainsbury's has said there is money available for members of the group to invest in schemes that would add value to their products and are now paying a premium.

Tesco has announced it will move to a dedicated supply chain involving 850 farmers, sourced from its existing suppliers, and will pay them around 22 pence per litre – a significant increase on their existing price.

In addition, and in collaboration with the co-op Dairy Farmers of Britain, Tesco will launch a 'local choice' milk sourced from smaller farms in the same county or region as the retail outlets through which it will be sold. This will allow the supermarket's customers to choose to pay a slight premium to support local producers. As part of this deal the farmers supplying the local choice milk will get a premium of up to 6p on their current milk price up to a maximum of 23 pence per litre, an increase of around a third on their existing price.

The key thing about these two recent announcements is the significant increase in the number of farmers involved in direct relationships with retailers, from around 4.4% of British dairy farmers under the existing arrangements with Asda, Waitrose and Marks & Spencer, to around 14%.

While there are still less than one in five British dairy farmers involved in direct relationships with retailers, it is hoped that these new announcements will highlight the mutual benefits to be gained from stronger supplier-retailer relationships. In addition it will mean that suppliers can develop better knowledge of the market and may be able to better meet consumer needs, such as increased demand for locally sourced products.

These deals should help improve efficiency throughout the supply chain and may pave the way for further relationships with suppliers of other dairy products.

Milk contracts

There have been many changes to contracts since the publication of the MDC's *Contracts and Relationships* report in September 2005. Contracts are improving all the time but there is still much to be done, particularly around the point of prices being able to be changed, often without farmers having any options to leave the contract, and for that reason it is worth summarising the main points of that report again.

Good contracts are crucial to an efficiently operating market and transparent, constructive relationships. Contracts offered by milk buyers often fall short of what is required in a marketplace which is no longer politically controlled but is instead operating as a free market; that is, contracts have not evolved as fast as the modern marketplace.

The consequence of these contract shortfalls is increased costs and reduced profits across the supply chain. An appropriately updated contract, designed and couched to suit market developments, can provide a real incentive to farmers to invest in their business and adopt management practices that allow them to produce milk efficiently and in line with the needs of their buyer.

Current shortfalls

Although there are a wide range of contracts in operation in the UK and many have been improved in recent years, there are a number of common problems that reduce the efficacy of these contracts:

- **Contracts do not pay farmers on the basis of what the customer wants or needs.**
  This has commonly been a problem with milk pooling because farmers are sometimes paid on the basis of milk constituents but the milk is sold on a volume basis. Such contracts may, for example, encourage a farmer to change feeding systems, perhaps with the inclusion of a high-cost supplement in order to increase milk price. The milk buyer pays more for the milk but is unable to derive any additional income from the market. Both the farmer and processor have incurred extra costs, potentially to no overall benefit. It is important to note that since the report was published almost two years ago, pooling has almost disappeared with a great deal more differentiation in contracts and differentiation in contracts expected to continue to increase as contracts are closely aligned with markets.

  A similar example would be payments for superior hygiene which can increases costs to the processor and often the farmer, without recovering value from the marketplace.

  However, there are occasions when these types of contracts that pay in constituents and sell in volume are reasonable in price pooling systems where there is instability in customer relations. In these cases flexibility is required to meet changing customer demands and share risk, but generally this only applies to relatively small volumes that will be switching frequently between markets.

- **Prices are set based on unimportant or varying market indicators**
  The indicators used to set prices must be appropriate to the market for which the milk is intended. While AMPE might be an appropriate indicator for milk destined for commodity manufacture, it is of less value where milk is produced for a differentiated liquid market. In this case a more valuable indicator might be a cost plus arrangement based on reliable assessment of the cost of production of marginal litres.

- **Contract incentives that exceed the value of that component to customers**
  This criticism could sometimes be applied to some of the incentives on offer for level production. Although processors want a level supply, it sometimes has a known value to them (usually equivalent to the increase in efficiency of utilisation of manufacturing plant). If the premium paid to the farmer is greater than the improvement in efficiency it will not be sustainable as more farmers produce a level supply. This will mean that the incentive will have to be cut. A higher initial incentive can easily be justified in order to encourage change, or cover the costs of changing, but should be identified as such to avoid unwelcome surprises later on.

- **Farmers do not maximise the price they receive under the contract.** It would be unfair to lay all the problems with the performance of current contracts at the door of the processor, because many farmers fail to receive the maximum price available to them. It is not uncommon for there to be a bigger price differential in the price paid to farmers on the same contract than between farmers on different contracts (Table 7).

Table 7: Differences in milk price obtained from the same contract

	Annual Average Price (ppl)	Difference to Original (ppl)
Original price 800,000 litres, spring calving	16.56	-
Option1: Increase to 1.4 million litres remain spring calving	16.9	0.34
Option 2: Remain at 800,000 litres but change to level production	18.26	1.7
Option 3: Increase to 1.4 million litres and go level	18.56	2

Were farmers to routinely maximise the price received under a contract, the impact would be to encourage purchasers to set accurate contract terms to ensure they could derive an adequate return from the market.

- **Contracts that can be changed at short notice or retrospectively without the farmers having the option to cease supplying that customer**
  Many contracts allow the buyer to change prices at short notice or retrospectively while the farmer does not have the option to cease supplying that buyer. This results in a weak negotiating position for the farmer, and is contrary to good business practice.

Towards better contracts

Ideally, milk contracts should be negotiated on a partnership basis with both sides recognising they need the other to be both profitable and efficient. The harsh reality is that in a market as diverse as that for raw milk, there is no ideal standard contract but some central guiding principles can be identified, and there will be some commonalty across all contracts.

Table 8: What is important …

…to farmers?	…to processors?
A stable and/or predictable price	Obtaining a secure supply (short and long term)
A clear understanding of the factors affecting the price and the knowledge that these factors are clearly represented in the contract	Obtaining a supply that matches their needs (quality, profile, volume, flexibility etc)
Security and frequency of payment	Obtaining that supply at a competitive price
A price that allows them to sustainably invest in the business	Farmers that meet all appropriate standards
Period of contract/security of having milk collected	Business-minded farmers who will work in partnership
Clear contracts with sufficient notice periods so they can understand what the buyer wants, why they want it and why it is mutually beneficial	

Based on this table it is possible to propose eight guiding principles for milk contracts[3]

- ***Clear pricing*** – set prices for known periods with option to quit at any price change
- ***Known volumes*** – monthly milk volumes contracted where volumes are critically important
- ***Accuracy*** – all contracts are accurate and pay a true value for what the buyer wants
- ***Differentiation*** – different contracts for milk destined for different customers, factories or products
- ***Appropriate*** – farmers offered contracts that are appropriate to them. For example, farmers should not be offered a liquid milk contract in areas where milk never goes to the liquid market
- ***Partnership*** – a constructive relationship between farmers and buyers, and joint negotiations with the eventual customer where possible
- ***Realism*** – negotiations based on accurate and relevant information when setting base prices
- ***Reward*** – risk and reward allocated appropriately so anyone taking a risk receives an appropriate additional reward.

Not an overnight process

Developing an increasingly meaningful and sustainable basis for milk contracts is not a short-term exercise. It will take time, patience and a spirit of co-operation, partnership and mutual understanding. Inevitably there will be a high degree of trade-off and *quid pro quo* but the benefits are considerable, as the form of contract can give farmers the incentive to invest and processors the drive to innovate based on a known milk supply.

3 Please see MDC's Contracts and Relationships 2005 for more details

As with all contracts, professional advice should always be sought. In particular, farmers should be looking for the following criteria when they consider a contract.

- How will the price be set? At the discretion of the buyer or on a formula based on the returns from a market place?
- How does the ability of the buyer to change the price link to the ability of the farmer to leave the contract? For instance a contract that has only one notice date and monthly price changes means that a farmer may have to wait for almost two years to leave a contract if he is unhappy with a price change. Are you happy with that lack of freedom?
- Are bonuses too good to be true? If a bonus to encourage production to change is too high to be maintained when most farmers have to change to get the bonus, it will have to be cut. This is not a problem as long as you expect the bonus to be cut at some point and plan accordingly.
- Linked to above – does the contract pay for what is valuable to the customer? If not, it will probably be changed in due course and in the meantime it will not help efficiency or customer relationships.
- If you are supplying a known level volume, are you being paid enough to do that?

Increasing efficiency

Introduction

Finally, it may seem that efficiency is the least important of the three elements of innovation, relationships and efficiency, with many farmers saying they cannot become more efficient. But for the whole industry, long term competitiveness and the ability to make a profit in our future markets depends on it.

Furthermore, there is evidence that continued focus on efficiency can still produce gains that will free up funds for investment.

All businesses compete on three basic attributes:

- The quality of the product – including descriptors which differentiate it from other products
- The price of the product – driven by costs of production
- The service surrounding the product – including elements such as distribution, customer support etc.

It is essential that businesses have an adequate focus on these aspects, and should aim to be excellent in one of the attributes and at least competent in the other two in order to be successful compared with competitors.

Your competitor is determined by the market in which you operate. In the case of farmers supplying the undifferentiated domestic market (eg, liquid milk), their competitors are other farmers in the UK. For farmers and processors supplying the commodity markets the competitors are farmers and processors in other countries.

It is possible for a business to change its competitors through innovation and the supply of a differentiated product; by changing or reducing competitors it is possible that costs can become less of an issue. An example would be moving from producing commodity block cheddar to manufacturing individually-packaged snacking cheese products. In this instance it would be essential to make the focus service and quality, as opposed necessarily to price and cost of production.

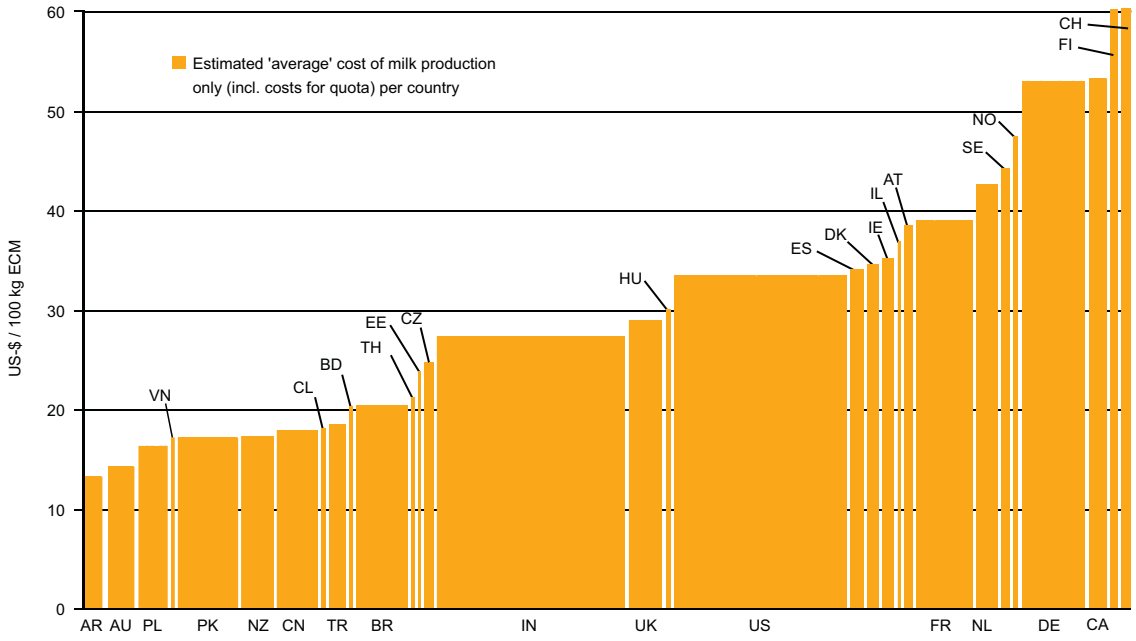
Whatever market you operate in, efficiency can be defined as your costs compared with those of your competitors, whoever they are and however many they may be but efficiency will always be important.

Increasing farm efficiency – a realistic ambition?

Figure 10 compares typical costs of production for a number of the leading dairy farming countries. The height of the column represents the cost of production and the width of the column the volume of milk produced in that country. It shows that the UK has roughly average costs of production on a global basis but low costs when compared with other EU countries. However, reports also suggest there is still scope for improvement. This puts UK dairy farmers in a potentially good position from which to compete. However, the efficiency of processors is also important when looking at the overall competitiveness of the industry.

Coming back to the theme of relationships and mutual need, all parts of the dairy industry need to be confident that all other parts are as efficient as possible, and this means dairy farmers and dairy processors both need to be as efficient as they can.

Figure 10: Costs of milk production



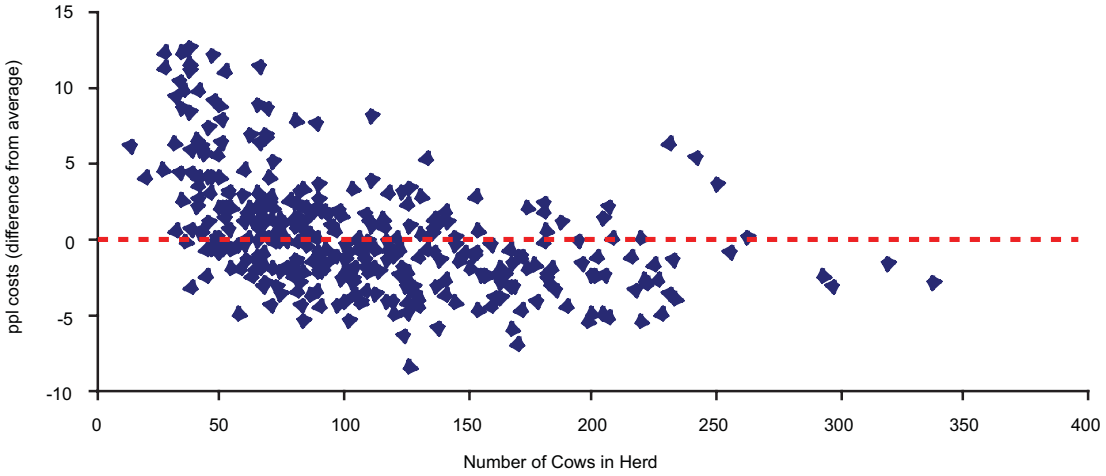
AR – Argentina
AT – Austria
AU – Australia
BD – Bangladesh
BR – Brazil
CA – Canada
CH - Switzerland
CL – Chile
CN – China
CZ – Czech Republic
DE – Germany
DK – Denmark
EE – Estonia
ES – Spain
FI – Finland
FR – France
HU – Hungary
IE – Ireland
IL – Israel
IN – India
NL – The Netherlands
NO – Norway
NZ – New Zealand
PK – Pakistan
PL – Poland
SE – Sweden
TH – Thailand
TR – Turkey
UK – United Kingdom
US – United States
VN – Vietnam

Source: IFCN

It is also important to appreciate that any absolute level of efficiency is influenced by a range of additional factors including farm size, farm location (soil type, topography) and farm infrastructure, as these will directly impact on the scale and nature of the operation, and will potentially impose barriers on expansion.

Figure 11 shows the range in total cost of production (ppl) of a sample of 350 dairy farms, expressed as a deviation from the average. The spread is around 10ppl, indicating that the worst farms have production costs considerably greater than the better businesses. No farmer would deliberately set out to allow costs to be as high as they are in some cases.

Figure 11: Cost of milk production – Including family labour, rent for owned land



Source: Economics of Milk Production, MDC [4]

So if many could reduce costs, why haven't they? If the top 10% achieve higher levels of performance, why doesn't everyone copy them? Why does this huge range of cash and economic costs of production persist?

The reality is that for many farmers, reducing costs of production is a significant challenge. A study by Professor Coleman at Manchester University suggests that improvements in efficiency have been made over the last 10 years. Table 9 compares costs for different herd size groups in 1996/97 and 2002/03.

Table 9: Comparison of costs per litre in lowland dairy herds in 2002/03 and 1996/97

		Herd size (cows)				
		10:<40	40:<70	70:<100	100:<150	>=150
Variable costs (ppl)	2002/03	10.70	8.73	8.70	8.93	8.88
	1996/97	10.30	9.26	9.32	9.40	8.83
Fixed and overhead costs (ppl)	2002/03	18.18	11.60	9.26	8.65	7.80
	1996/97	14.32	11.70	9.45	8.65	8.10
Total costs (ppl)	2002/03	28.88	20.33	17.97	17.58	16.68
	1996/97	24.62	20.96	18.77	17.94	16.93
Change in total costs (ppl)		+4.26	-0.63	-0.80	-0.36	-0.25
% change in total costs		+17%	-2.8%	-4.3%	-2.0%	-1.5%

4 Although the data is for 2002/3 and on farm costs have increased significantly since 2002/3 due to higher input costs, it is clear from more recent FBS data that the range in costs has not improved significantly, so the point about the huge range in production costs remains valid.

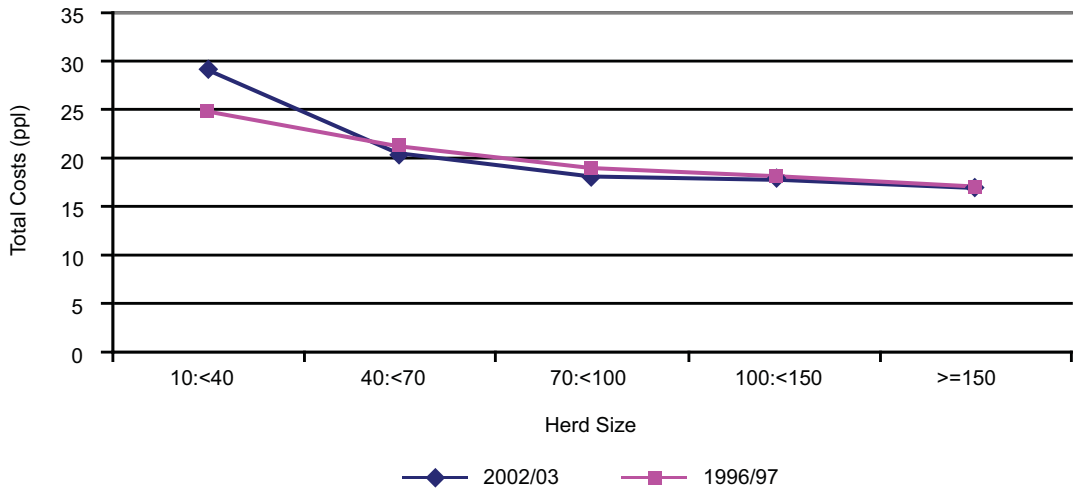
With the exception of herds with less than 40 cows, all the herd size groups managed to reduce production costs over the period but the costs savings achieved are modest in both actual and percentage terms, and are insignificant when compared with the fall in milk prices over the same period. In all the groups, fixed costs have been reduced less than variable costs, with labour costs being the principal reason for this.

Two significant trends are also apparent in the data. The first is that the percentage reduction achieved over the period tends to decline as herd size increases. This is probably because the larger herds had lower costs to start with and found it difficult to implement marginal efficiency improvements.

The second trend is that costs per litre also decline as herd size increases (Figure 12). Notably the biggest differential is in fixed rather than variable costs. While the variable costs per litre are reasonably similar, larger units are producing more litres over which to spread the fixed costs of the business.

There is however an element of economy of scale. The biggest gains are made at the first stages of expansion and the incremental gains decline at larger herd sizes. However, expansion of any system will normally generate a reduction in costs per litre.

Figure 12: Costs per litre by herd size

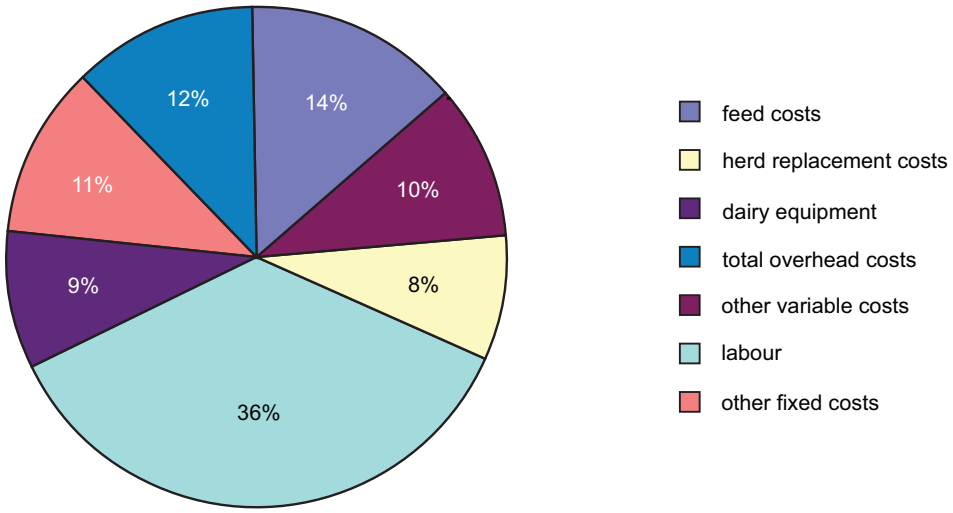


However, while increasing scale is one way of improving efficiency, it is certainly not the only way. MDC research being used both as the basis for MDC Dairy Business Group meetings in early 2007, and as a way of determining research priorities, unravels the keys to reducing cost per litre.

The conclusion is that whatever the system, whatever the scale of operation, there will be a range of cost levels. In essence, efficiency doesn't appear to be a factor of scale or system; rather it is a factor of the person operating the system and their willingness to fundamentally challenge how their business is run.

Figure 13 is the result of an analysis of farmers operating all-year-round calving systems. It compares the top 10% with the average, and breaks down the difference between the two groups in costs per litre on a percentage basis. For example, 14% of the total difference in cost per litre is due to variations in feed costs.

Figure 13: Percentage difference in costs per litre between the highest and lowest cost herds



This suggests that for all-year-round calving herds there are many efficiencies to be made, but this does not equate to just cost-cutting. For example, the feed costs per litre are less because feed appears to be used more effectively. In fact the feed use per cow was the same between the two groups but the milk yield was higher on the most efficient farms, spreading the cost per litre.

Table 10: Feed efficiency comparison

	Av. of Top 10%	Av. Other 90%
Concentrate Use	1.9 tonnes/cow	1.9 tonnes/cow
Stocking Rates	2.0 cows/ha	1.8 cows/ha
Silage Use	8.6 tonnes/cow	9.0 tonnes/cow
Yield	7,659 litres/cow	6,419 litres/cow

While machinery and labour comparisons are not shown here, it is clear from the data that equipping the farm with the minimum machinery complement to operate the business is the wisest decision. Similarly, with labour costs increasing the temptation may be to look for cheap labour – but this again can be a false economy. Successful businesses recruit people to increase the skills employed within the business, and they use this to drive business performance.

All the evidence suggests that farm businesses can improve efficiency but it will not happen overnight, and gains will be incremental rather than radical. The skill will be in exploiting the farming system within the available resources. Efficiency will not necessarily come from radical restructuring of the business.

However, the inevitable trend from all the data is that greater total milk output from a given set of resources/farm infrastructure has a significant impact on farm efficiency as it allows the fixed costs to be spread over more litres, and so reduces production costs per litre. In many cases, however, big steps up in total production are accompanied by increases in fixed costs so the anticipated reduction does not necessarily occur; for example if an extra member of staff has to be employed to manage the expanded herd.

It is important to make the distinction between greater milk output and higher yields per cow. It is not always necessary to achieve very high yields per cow to achieve reduced costs. A relatively small increase in average yields could have a significant impact in systems designed to have a low overall cost base, such as those based on extended grazing and short housing periods.

Fundamentally, this means that systems with yields as far apart as 5,000 and 9,000 litres can be efficient, but both systems may be made even more efficient if yields increase to 5,500 and 9,500 litres respectively.

This only works if nothing else in the system fundamentally changes. For example, the extra 500 litres is achieved cheaply (probably through a little extra feed or better utilisation of feed delivered in the same way as existing feed), and without major investments or cost increases such as purchasing a feeder wagon, or loss of performance in other areas such as fertility.

Driving efficiency improvements

The foundation of increasing efficiency will always be a real understanding of the cost levels of the business – challenging the way the business is run and looking to adopt new techniques and practices.

Increasingly farmers are turning to benchmarking and discussion groups as a way to assess cost levels and identify how efficiency may be improved. These forums provide an ideal opportunity for sharing ideas and increasing aware of what is both possible and practical.

Case Study 1: Research best practice shows potential to reduce fertiliser costs

By making full use of the nutritive value of slurry and manures, nine out of 10 dairy farmers could save money on purchased fertilisers. With ever-tightening environmental legislation and spiralling nitrogen fertiliser prices, a more focused approach to farm waste utilisation can deliver significant benefits.

Members of MDC Dairy Business Groups – farmer groups run in conjunction with co-ops and private dairies – had access to the latest research and practical advice for developing new fertiliser policies. This included how to assess the quantity and quality of manures and the interpretation of individual field soil analyses. Taking full account of the nutritive value of organic manures and relating these to field requirements provided savings of up to £100/ha.

Through discussion, many cost-saving ideas were shared, allowing practical changes to be made.

Case Study 2: Benchmarking help reduce electricity costs

Dairy farmers who participated in MDC Dairy Business Groups identified significant opportunities to reduce electricity costs and the benefits of shopping around for the best supply contract.

Farmers' electricity costs were provided anonymously and compared on a pence per litre basis. The range in costs was from 0.15ppl to 0.95ppl. To identify potential savings, an independent electricity audit of tariffs was carried out for a 150 cow herd producing 900,000 litres, assuming the farm was a relatively efficient user with an up-to-date parlour. The different rates paid for electricity were then used to calculate the annual costs. The range in on-farm cost was from £1700 to £3400 – equivalent to a saving of 0.2ppl. Without the use of benchmarking farmers would have been unable to assess whether their costs were sensible and if savings could be made.

While discussion groups are a useful way for farmers to make sure they are doing the best they can, significant improvements in efficiency are also possible through the adoption of new ideas and research. Probably the best example of this is the uptake of new genetics.

There is no doubt that genetics have played a huge role in the increase in the average yield per cow in the UK, although this rate is currently slowing. Now, however, genetics are being used to increase feed conversion efficiency, which is particularly relevant as feed is still the single largest variable cost on dairy farms.

Impact of Genetics

Currently, black and white heifers produce around 7500kgs of milk, which is nearly 2,500 kgs more than they produced 20 years ago in 1987. In the same time, genetics has improved the potential to milk by just under 2,000kgs, which is around 80% of the improvements seen on farm.

The attraction of genetic improvement is that it is permanent, that is, once new genetics are introduced the results can be seen each year, not just once. Changes are also cumulative, that is, not just the cow herself benefits, but her progeny also carry the improvement into future generations.

Genetic improvement is therefore very cost effective, assuming you make progress across all traits and do not unintentionally increase costs through worsening factors such as fertility, somatic cells counts or calving ease. By carefully choosing the right bulls for his herd a farmer can make some very cost-effective progress for his future herd.

The UK main selection index (£PLI – Profitable Lifetime Index) contains the following traits.

- Production traits (milk, fat and protein)
- Somatic Cell Count (to reduce cell counts and reduce mastitis)
- Locomotion (to improve Feet and Legs and reduce Lameness)
- Fertility Index (to improve Conception rates and reduce Calving Intervals)
- Lifespan (to increase the longevity of the cows)

Over the past year, the MDC has been working with an industry group to update the index calculation. The resulting revised index will be introduced in August 2007, at which point the weighting towards lifespan and welfare traits will be increased to around 50%.

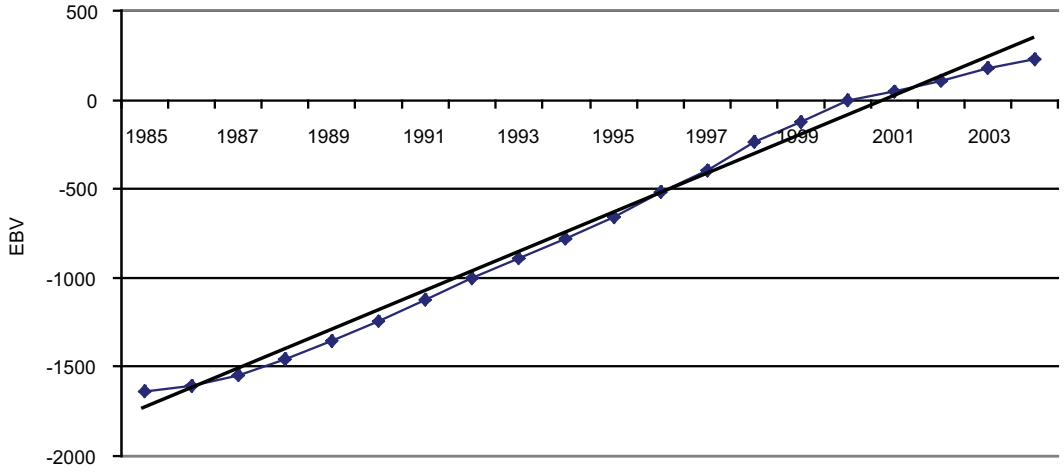
More recent focus has also included:

- Robustness (ie, cows fit for purpose, focusing in on the energy balance of the cow, especially at times of peak energy requirement)
- Customised Herd Indexes (which can create selection indexes tailor-made for specific farming circumstances, eg, extensive or intensive systems, or liquid or cheese milk contracts)
- Calving Ease (to reduce calving difficulties on farm)
- Calf and maiden heifer growth and maturity rates

Figure 14 shows the genetic trend in Estimated Breeding Values by year of birth of the cows. It is anticipated that the increase will soon show a slowing down as the £PLI changes and producers place more emphasis on health, fertility and longevity traits.

Experience shows us that effective use of genetic tools can be a very powerful way of aiding on-farm performance, and there has been a very clear impact on non-production traits when producers start to incorporate them into their genetic selection programmes.

Figure 14: Genetic trend in estimated breeding values: Holstein cow EBVs by year of birth



Why should farmers reduce costs?

Finally, why should farmers improve efficiency? Won't any efficiency savings just be absorbed by others in the supply chain through lower milk prices? The answer to that is that in the long term, there is indeed that danger because in any properly-functioning market, improvements in efficiency eventually find their way to consumers through the normal operation of the marketplace. However, the reality is there are still various important reasons to persevere with efficient, competitive production to ensure the future long term profitable existence of the dairy farm business.

If you are not maximising efficiency, why should you? Because:

- you can and that will increase your profit – at least in the medium term
- if you don't do it and the technology is there to do it, it is not only the top 25% British producers who will do it, but also the Irish and the Dutch and other competitors and they will take our markets
- because once you acquire the mindset of a 'profit maximiser', you will know how to adapt to changing market circumstances and survive in the career of your choice.

Supply chain efficiency

In the same way that farmers will need to improve their efficiency, so the milk buyers themselves should do the same. Specifically, Dairy UK maintains there must be greater focus on developing better arrangements for marketing raw milk, achieving greater market competitiveness through consolidation, exploiting market opportunities for product innovation, and exceeding the performance of our competitors.

To this end Dairy UK provides a Manufacturing Excellence Programme to its members which consists of diagnostic benchmarking through Dairy PROBE, allowing processors to compare their business practices against world class standards, and Masterclasses to train staff in identifying improvement opportunities in processing efficiency.

Conclusions

The UK dairy industry is making positive progress. Farm efficiency is already good by EU standards, and is improving with the potential to be even better – but this will take time and if prices fall too low in the interim production will drop significantly. Processors are also increasingly working on their efficiency – both independently due to the usual commercial drivers, but also with Dairy UK's facilitation.

The outlook for innovation and differentiation is improving rapidly, with many more added-value and/or differentiated products and supply chains introduced in recent years. These are enhancing profitability both to farmers and processors. It is difficult and expensive to introduce added-value products and differentiated supply chains, and it will take time to establish more.

However, with the current situation of low dairy farm profitability, any possible 'quick wins' – such as greater differentiation of supply chain – will be important to secure the future of the dairy industry.

There is a greater degree of consensus than in the past about the way forward, which in itself increases the possibility of progress. The industry needs to continue to recognise its mutual needs and focus on what it can agree on, rather than the relatively small differences of detail.

Challenges remain. Future CAP Reform means the market will become ever freer. The implication for the dairy industry is that it has to continue improving its competitive position by maximising innovation and efficiency; but the optimum results will show when these are achieved through an evolving collaboration.

Milk Development Council
Trent Lodge, Stroud Road
Cirencester GL7 6JN
tel: 01285 646500
fax: 01285 646501
www.mdc.org.uk

July 2007