

# ***LTO International comparison of producer prices for milk***

# **2002**



*prezzi di latte • melkpreizen • prix du lait  
milch preise • mjölk priser • milk prices • maelk priser*

**LTO** Nederland



# COLOPHON

## Editor

Productschap Zuivel  
Dutch Dairy Board  
Louis Braillelaan 80, 2719 EK Zoetermeer  
P.O. Box 755, NL-2700 AT Zoetermeer  
telephone (+ 31) 79 3681900  
fax (+ 31) 79 3681949  
www.prodzuivel.nl

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## Commissioned by

Dairy Committee LTO Netherlands  
P.O. Box 29773, NL-2502 LT Den Haag  
telephone (+ 31) 70 3382743  
www.lto.nl

## In cooperation with

European Dairy Farmers  
C/o Deutsche Landwirtschafts  
Gesellschaft e.V.  
Eschborner Landstraße 122,  
D-60489 Frankfurt a.M., Germany  
telephone (+ 49) 69 24 788 315  
www.dairyfarmer.net

## Lay out

Willemijn de Lint, Haarlem

## Orders

This report can be downloaded from  
[www.milkprices.nl](http://www.milkprices.nl) or ordered:  
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fax (+ 31) 79 3681949  
e-mail [pzbestellingen@pz.agro.nl](mailto:pzbestellingen@pz.agro.nl)

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## Table of contents

1.	Introduction .....	4
2.	Selected dairy companies .....	5
3.	Milk prices 2002 .....	6
4.	Milk prices 1999, 2000, 2001 and 2002 .....	9
Appendix 1	Method and assumptions .....	16
1.	Method .....	16
2.	Chosen standards for fat and protein contents, quality and annual delivery .....	16
3.	Milk price per calendar year .....	17
4.	Supplementary payments for end of the year profits .....	17
5.	Other assumptions .....	17
Appendix 2	Dairies and milk payment systems .....	18

## Foreword

In this report 2002 milk prices of the LTO International Milk Price Comparison are presented and also an analysis of the producer prices for milk paid in the period 1999 until 2002.

Milk prices dropped with 4.4% in 2002. Notable is the big and in 2002 even widening gap between the highest and lowest milk prices. A difference of more than 10 euro per 100 kg makes the difference between an income or no income for dairy farmers.

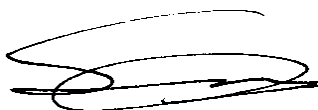
Of course a comparison of only producer prices is not comprehensive. An evaluation of the performance of a dairy company should be based on more factors such as product portfolio, region, investments etc.

For dairy farmers this LTO International Milk Price Comparison is useful information, since 90% of their income depends on milk revenues. For dairy farmers it is very difficult to make a comparison of farm gate milk prices paid by different dairy companies. So this comparison is a very useful tool.

The years to come the EU dairy policy will change substantially and the dairy market will be less protected. This among others means the strength of the dairy companies to meet these challenges become more important. Differences in milk prices paid from year to year will increase. The internationally much appreciated LTO International Milk Price Comparison will also in the future be an important tool for dairy farmers.

Finally I would like to thank all participating dairy farmers of EDF for their cooperation. The monthly contribution of their milk payment receipts and the collecting by the EDF secretariat forms the solid basis of the comparison. Also I would like to thank Dr. Michael Keane and Mr. Declan O'Connor of the University of Cork in Ireland for their contribution to this report.

I hope this report gives you a clear view on the producer prices for milk paid by the leading European dairy companies.



Siem Jan Schenk  
Chairman Dairy Committee Dutch Organisation for Agriculture and Horticulture (LTO Nederland)

# 1. Introduction

In order to obtain a clear overview of the developments and, thereby, to improve the transparency of the dairy market for farmers, the Dutch farmers union (LTO Nederland) has commissioned the Dutch Dairy Board (Productschap Zuivel) to monitor and systematically compare the prices of raw milk paid by various dairy companies in the EU. This comparison is realised in cooperation with the European Dairy Farmers (EDF).

Monthly milk prices are collected from January 1999 onwards. Each month the international milk price comparison is published on the website [www.milkprices.nl](http://www.milkprices.nl).

After the calendar year, when most (cooperative) companies have presented their definitive milk prices, an annual report is presented that includes supplementary payments for end of the year profits.

The present report shows the results for calendar year 2002 and in addition the milk prices for the years 1999 until 2002.

In chapter 2 the selection of the dairy companies is explained. The milk prices for calendar year 2002 are presented in chapter 3 and the milk prices for the years 1999 until 2002 are shown in chapter 4.

Primarily, the milk prices in this report are based on the milk payment methods of the dairies.

All prices are calculated for milk with standard fat and protein content, quality and quantity.

Chosen standards are:

- 4,20% fat and 3,35% protein;
- Annual delivery of 350,000 kg;
- Total bacterial count is 24,999 per ml and somatic cell count 249,999 per ml.

The chosen standards, the method and other general assumptions regarding the milk price comparison are described in detail in appendix 1.

It should be noted that the result from these calculations is NOT a comparison of the average prices actually paid by the dairies, but the price each company would have paid for a certain standard quality and quantity of milk based on its own payment system.

The main characteristics of the payments systems of the individual dairy companies are presented in appendix 2.

## 2. Selected dairy companies

Producer prices paid by 16 EU dairy companies are compared. Because one dairy, namely Arla Foods, has (still) different payment systems for their Danish and Swedish suppliers two milk prices of Arla Foods are calculated. So in total 17 milk prices are compared.

The selection of the dairies in the milk price comparison was based on their size and location within the EU.

**Table 1**

**Top 40 EU Dairy companies in 2001, ranked by total amount of milk processed in EU**

(Source: Dairy Industry Newsletter)

Company	In EU processed milk (mln ltr)	Company	In EU processed milk (mln ltr)
1. <b>Arla foods (DK/S)</b>	<b>7,200</b>	21. Hochwald (D)	1,200
2. <b>Lactalis (F)</b>	<b>7,000</b>	22. <b>Express Dairies (UK)</b>	<b>1,150</b>
3. <b>Campina (NL)</b>	<b>5,750</b>	23. Robert Wiseman (UK)	1,000
4. <b>Friesland Coberco DF (NL)</b>	<b>5,600</b>	24. Berglandmilch (A)	950
5. <b>Nordmilch (D)</b>	<b>4,200</b>	25. Puleva (E)	900
6. <b>Bongrain/CLE (F)</b>	<b>4,100</b>	26. Omira (D)	870
7. Nestlé (CH)	2,800	27. Dairygold (IRL)	820
8. Dairy Crest (UK)	2,700	28. CAPSA (E)	806
9. <b>Humana Milchunion (D)</b>	<b>2,460</b>	29. Eurial –Poitouaine (F)	820
10. <b>Glanbia (IRL)</b>	<b>2,450</b>	30. <b>Kerry (IRL)</b>	<b>750</b>
11. <b>Danone (F)</b>	<b>2,430</b>	31. Lakeland Dairies (IRL)	725
12. <b>Sodiaal (F)</b>	<b>2,300</b>	32. Unicopa (F)	720
13. Entremont (F)	1,950	33. GLAC (F)	700
14. Müller (D)	1,860	34. Leche Pascual (E)	700
15. Laïta Group (F)	1,730	35. Kraft Foods	650
16. Fromageries Bel (F)	1,600	36. Hocheffel (D)	630
17. Valio (FIN)	1,580	37. DOC (NL)	600
18. BMI (D)	1,400	38. Milko (S)	600
19. <b>Parmalat (I)</b>	<b>1,300</b>	39. <b>Belgomilk (B)</b>	<b>590</b>
20. Lactogal (P)	1,200	40. Goldsteig (D)	570

(Dairies included in the LTO International Milk Price Comparison are printed in **bold**)

UK Company First Milk is not among the top 40 of milk processors, but is selected because this cooperative is a very big collector of milk. For this reason at the start of the milk price comparison Milk Marque –First Milk evolved form Milk Marque– and not Dairy Crest was selected.

Finnish Kymppi is a relative small company. Kymppi is chosen in this milk price comparison as an alternative for the large cooperative Valio. The milk price of Kymppi generally follows the payments of Valio.

Nestlé is an international company with different payment systems (and producer prices) in the different countries. For this reason Nestlé is not selected.

### 3. Milk prices 2002

While market prices for butter and skimmed milk began to ease back in 2001, the fall in producer prices for milk began in 2002, mainly because the cheese prices fell also. In 2002 the average paid out milk price for standard milk was 4.4 % below 2001.

It should be noted, that the rate of inflation (2.1 % annual average EU-15<sup>1</sup>) is not included in this figure.

The milk prices calculated for the calendar year 2002 are shown in the table below.

**Table 2**  
**Standardised milk price calculations for 2002 deliveries (euro/100 kg)**

(Price per 100 kg standard milk with 4.20 % fat, 3.35 % protein, total bacterial count 24,999/ per ml, somatic cell count 249,999 per ml and a yearly delivery of 350,000 kg, VAT and levies excluded, supplementary payments for end-of-the-year-profit-distributions are included.)

Company	2002	2001	2002/2001	Corrected for currency changes 2002/2001
1. Parmalat	39.45	40.00	-1.4%	
2. Kymppi	35.85	35.29	1.6%	
3. Arla Foods DK	32.74	32.69	0.2%	-0.1%
4. Campina	32.51	32.88	-1.1%	
5. Arla Foods S	31.73	30.87	2.8%	1.8%
6. Sodiaal	31.68	32.78	-3.3%	
7. Danone	31.68	32.68	-3.1%	
8. FCDF	31.68	33.60	-5.7%	
9. Bongrain	31.60	32.65	-3.2%	
10. Lactalis	31.58	32.79	-3.7%	
11. Humana	30.81	32.90	-6.4%	
12. Belgomilk	29.63	32.23	-8.1%	
13. Glanbia	29.10	31.55	-7.8%	
14. Nordmilch	28.67	32.76	-12.5%	
15. Kerry(Golden Vale)	28.60	30.22	-5.4%	
16. Express D.	27.84	30.27	-8.0%	-6.9%
17. First Milk	25.14	28.76	-12.6%	-11.5%
<b>Average</b> (arithmetic)	<b>31.19</b>	<b>32.64</b>	<b>-4.4%</b>	
New Zealand	15.78	18.33	-13.9%	-18.6%
USA	27.50	36.66	-25.0%	-20.0%

#### Top milk price

Parmalat pays the best price for 100-kg standard milk, followed by Kymppi. Surprisingly, despite the poorer market situation in 2002 and the decrease in average milk price, Scandinavian dairies in 2002 paid a higher price than in 2001. The difference between milk prices paid by Arla Foods to their Danish and Swedish suppliers is mainly caused by the fluctuation of the Swedish Crown against the euro (and against the Danish Crown).

<sup>1</sup> Source: Eurostat, Harmonized Indices of Consumer Prices.

The high price paid by Campina is mainly due to the relatively high supplementary payments (see also graph 1). Contrary to the years before Campina did not add profits to the general reserves, but these profits were distributed to the member suppliers as subordinate bonds.

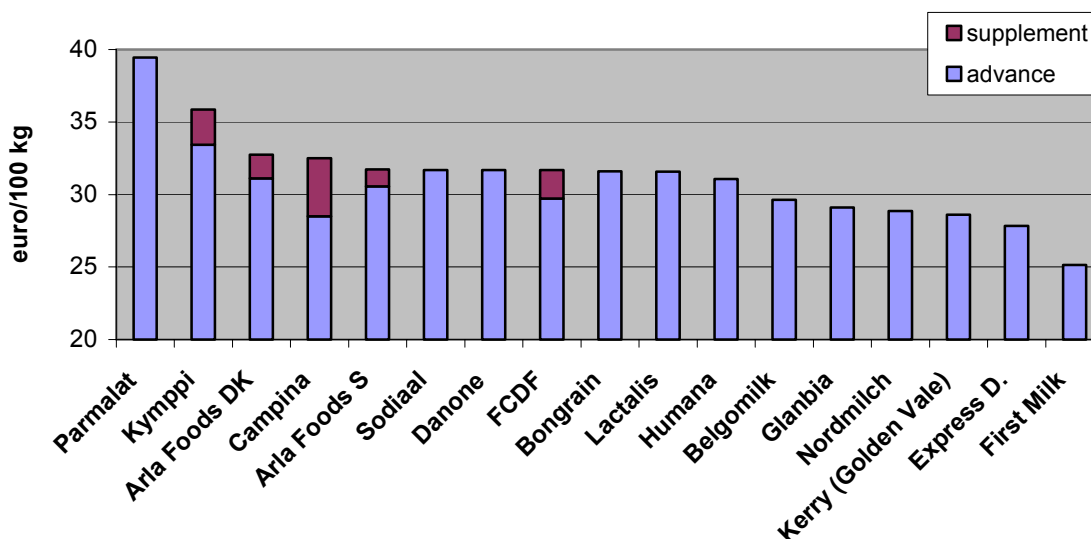
French milk prices decreased less than average and do not differ much from each other. Perhaps this is a consequence of their indexation system.

## Supplementary payments

Besides Campina, also Arla Foods, Kymppi and FCDF made supplementary payments as part of the profit distribution. The additional payments of Humana and Belgomilk during the year are retrospectively added to the monthly milk prices.

Because the so-called index companies, mainly Belgomilk and the German dairies paid less, the milk price paid by Friesland Coberco strongly decreased.

**Graph 1**  
**Milk prices 2002**



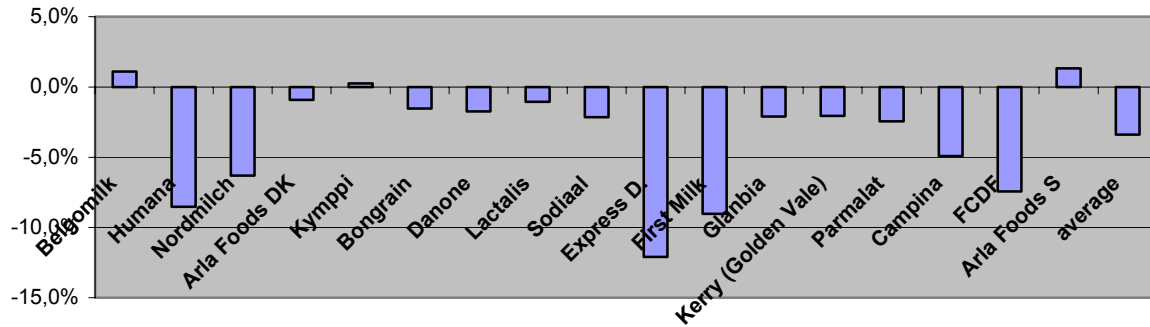
(The calculated milk price paid in advance is the weighted average of the monthly milk prices excluding supplementary payments).

## Outlook 2003

During the first 4 months of 2003 milk prices decreased on average by 3.4 % (graph 2).

### Graph 2

*Change in producer prices paid in advance during the first 4 months of 2003 compared with the same period in 2002*



Corrected for the weakening of the British Pound against the euro (minus 11%), milk prices in the UK did not (First Milk) or little (Express Dairies) decrease.

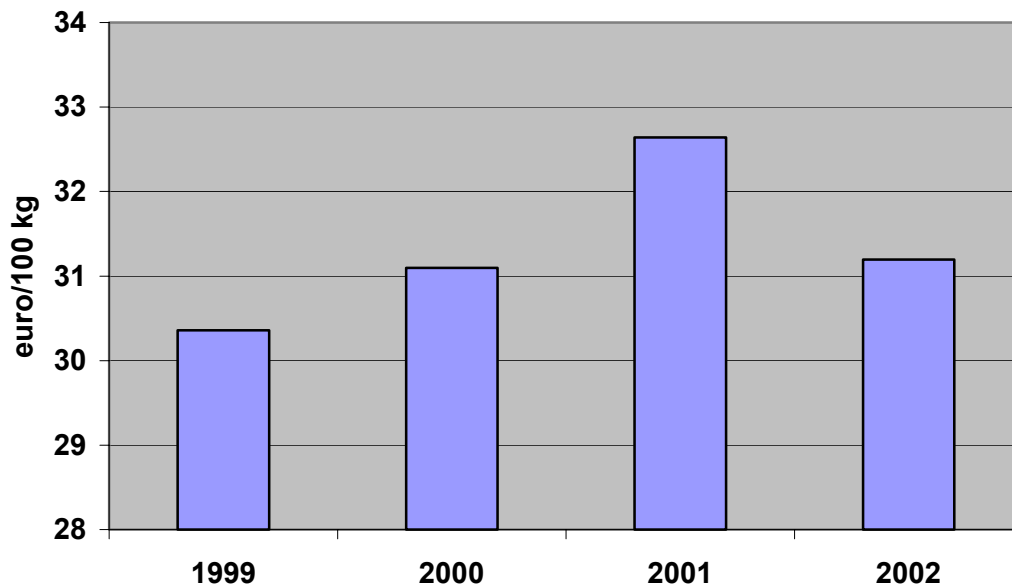
German milk prices decreased further.

Based on the milk prices during this period and the current market situation dairy farmers should be aware of continuing lower milk prices in 2003.

#### 4. Milk prices 1999, 2000, 2001 and 2002

Not surprisingly given the good market situation in 2001 the average milk price paid to producers in that calendar year was the highest of the last four years.

**Graph 3**  
*Average producer price paid for standard milk in 1999, 2000, 2001 and 2002*



**Table 3**  
**Producer prices paid in 1999, 2000, 2001 and 2002 for standard milk**

	Average 1999- 2002	Rank	1999	Rank	2000	Rank	2001	Rank	2002	Rank
Parmalat	38.29	1	37.26	1	36.45	1	40.00	1	39.45	1
Kymppi	34.67	2	33.61	2	33.94	3	35.29	2	35.85	2
Arla Foods S	32.56	3	33.01	3	34.62	2	30.87	14	31.73	5
Arla Foods DK	32.20	4	31.45	4	31.91	4	32.69	9	32.74	3
FCDF	31.74	5	30.26	9	31.55	6	33.60	3	31.68	8
Danone	31.65	6	30.73	6	31.50	7	32.68	10	31.68	7
Lactalis	31.64	7	30.73	5	31.46	8	32.79	6	31.58	10
Bongrain	31.60	8	30.70	7	31.45	9	32.65	11	31.60	9
Campina	31.58	9	30.45	8	30.48	13	32.88	5	32.51	4
Sodiaal	31.57	10	30.15	10	31.66	5	32.78	7	31.68	6
Humana	30.86	11	29.23	12	30.49	12	32.90	4	30.81	11
Belgomilk	30.35	12	28.17	15	31.37	10	32.23	12	29.63	12
Glanbia	30.35	13	30.09	11	30.64	11	31.55	13	29.10	13
Nordmilch	30.01	14	28.71	13	29.90	14	32.76	8	28.67	14
Kerry(Golden Vale)	29.11	15	28.44	14	29.17	15	30.22	16	28.60	15
Express D.	28.15	16	27.76	16	26.74	16	30.27	15	27.84	16
First Milk	26.14	17	25.33	17	25.32	17	28.76	17	25.14	17
<b>Average (arithmetic)</b>	<b>31.32</b>		<b>30.36</b>		<b>31.10</b>		<b>32.64</b>		<b>31.19</b>	
High minus low 1)	12.15		11.93		11.14		11.24		14.31	
High minus low 2)	3.45		4.84		5.45		3.38		4.15	

1) Difference between highest and lowest milk price;

2) Difference between highest and lowest milk prices, with exclusion of the Parmalat, Kymppi (highest) and Express Dairies and First Milk (lowest).

## Top

Italian Parmalat pays the best price for 100-kg standard milk, which is hardly a surprise looking at other publications of national milk prices like the one of Eurostat (see appendix 3). Italy is an import country for dairy produce. The 'shortage' of raw milk is strengthened as almost half of the raw milk produced is used for processing special high value added cheeses, like Parmesan.

Another possible explaining factor could be the less power of the supermarkets against the dairy. According to a LEI (Dutch Agricultural Economics Research Institute) benchmark study of 6 international dairy companies<sup>2</sup> supermarkets in Italy tend to be less concentrated as in other countries such as France and the Netherlands.

Finnish dairy group Kymppi pays the second best milk price. The calculated milk price is without subsidy. When Finland joined the European Union a transitional subsidy per unit of milk was negotiated. The level of this subsidy differs between the regions ranging from 6 euro per 100 kg (2002) in the southern part of Finland to higher amounts in the northern part.

The Dutch and French companies take a middle position in the milk price league.

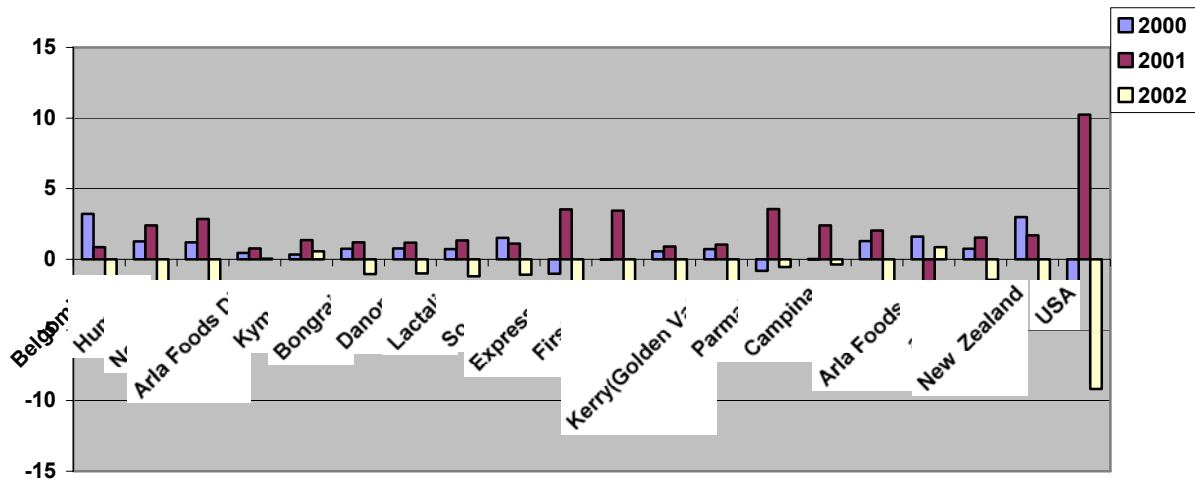
Prices paid to UK producers are at the bottom and are 10 to 15% lower than average.

<sup>2</sup> LEI Zuivere Zuivel; Over maatschappelijk verantwoord ondernemen, The Hague, May 2003.

## Fluctuations

Arla Foods does not only pay a relatively high price, but also a constant price. Not only from year to year (graph 4), but also from month to month there is little variation in producer prices for milk paid by Arla Foods. The seasonal premiums and deductions are not cashed during the year (see appendix 2). As mentioned before the variation in calculated milk prices paid by Arla Foods to their Swedish suppliers is strongly related to the variation of the Swedish Crown to the Euro. The low milk price in 2001 is almost entirely due to the weakening of the Swedish Crown.

**Graph 4**  
**Yearly fluctuations milk prices**



For companies in the so called non – euro zone like the UK dairies the differences in milk prices paid from year to year can be (partly) explained by currency fluctuations. The fluctuations of the milk price paid by FCDF are inherent to their indexation system.

It looks like the French indexation system smoothes down the fluctuations in prices.

Fluctuations in producer prices paid by the European dairies are much less than those in USA and New Zealand. Because fluctuations are expressed in absolute terms in graph 4 the variation of the low milk prices in New Zealand are underestimated, because of their low level.

## Ireland and United Kingdom

Recently a report has been published about the Irish dairy industry, which concludes that there has been an erosion of Ireland's dairy competitiveness in recent years compared with Denmark and the Netherlands<sup>3</sup>. Reasons are the fragmented nature of the dairy industry, a relatively large number of small dairy farmers, low fat and protein levels of raw milk, the strong seasonality of milk production which leads to poor capacity utilisation and causes a mismatch between market needs and supply (more bulk and commodities and less higher value added products) and a heavy reliance on EU support as a means of selling butter and skimmed milk powder. This could explain to a large extent Irish producer prices are below EU average and fluctuate more.

The United Kingdom is like Italy a net dairy importer. But milk prices paid by UK companies are at the bottom of the milk price league and Italian Parmalat is at the top.

A possible explanation for the low milk prices could be the current structure of the UK dairy industry. Until 1995 the Milk Marketing Boards (MMB's) regulated milk pricing in the UK. Farmers were obliged to sell their raw milk to the MMB's. The regional Boards were the only sellers of raw milk to the processing dairies. All the money paid by the processing dairies and creameries was pooled and then distributed to the farmer suppliers. Higher prices for milk destined for the liquid milk compensated lower prices for manufacture into bulk commodities like butter and cheese. This dependency, low prices for raw milk intake and lack of foreign competitors made the UK manufacturing industry less innovative and cost aware.

After the abolition of the MMB's this situation changed dramatically. Farmers became dependant on the demand by the industry and the manufacturing dairies lost the advantage of low raw milk prices and had to compete more with dairy products from abroad. As a consequence UK producer prices for milk dropped.

Other factors which appear to explain the current low prices are the over capacity in the dairy industry and the shift from doorstep delivery of fresh milk to the supermarket chain. Express Dairies is the UK market leader for liquid milk and doorstep delivery.

While half of the raw milk is collected by cooperatives contrary to other European countries UK dairy farmers own almost no dairy processing capacity.

## Differences

Producer prices paid for raw milk vary strongly among the companies as can be seen in table 3. The gap between the highest and lowest prices did not change in the period 1999-2002 and is more than 10 euro per 100 kg. In view of the internationalisation of the European dairies one might have expected a narrowing of this gap.

Excluding the companies with highest (Parmalat and Kymppi) and lowest milk price (Express Dairies and First milk) the gap between the 12 other companies is still between 3.38 (2001) and 5.45 (2000) euro per 100 kg.

## EU support prices

Table 4 shows the average producer price paid for milk by the 16 dairies and the EU target and intervention prices. The average producer price is calculated for milk with a fat level of 3.7 % (and not 4.20% like for standard milk), which is in accordance with the EU target price. Because of the relation between the fat and protein contents of milk the protein level is adjusted to 3.25 %. Apart from fat and protein levels, the calculated prices are based on the same criteria as standard milk.

The EU intervention milk price equivalent is based on intervention prices for butter and skimmed milk powder adjusted for processing costs (see appendix 3).

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<sup>3</sup> Strategic Development Plan for the Irish Dairy Sector made by Prospectus and Promar and commissioned by the Department of Agriculture & Food an Enterprise Ireland in conjunction with the Irish dairy processing industry.

**Table 4**  
**Average producer prices for standard milk adjusted for fat and protein level**  
**(3.7 % respectively 3.25%) compared with EU target price**

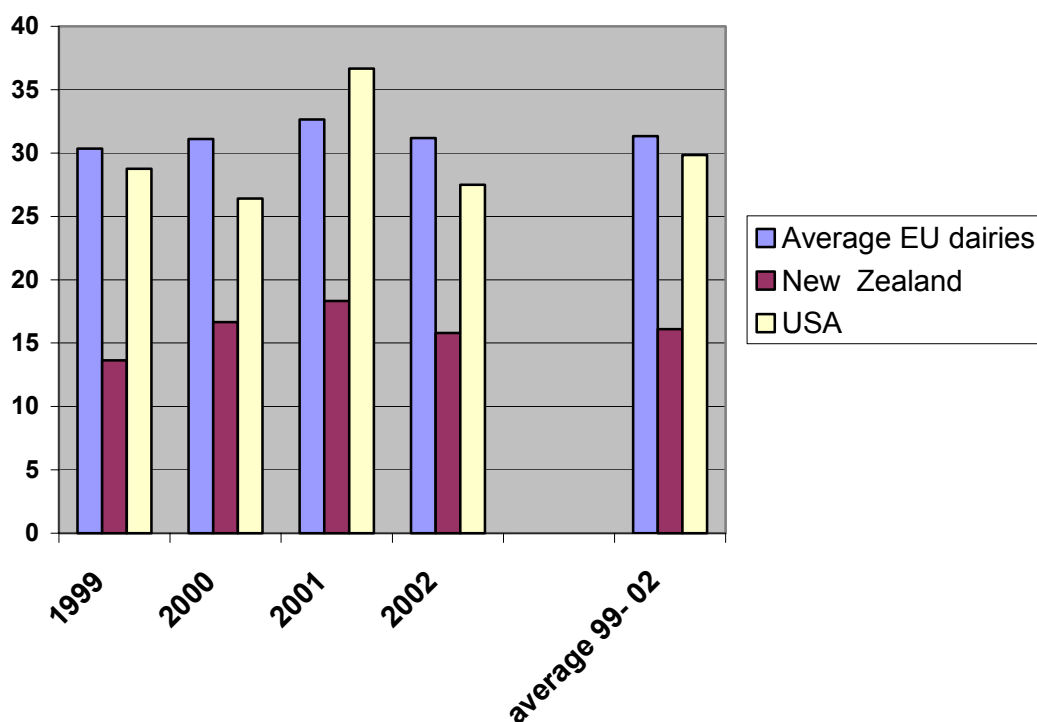
	1999	2000	2001	2002	Average 1999-2002	EU target price	Intervention Milkprice equivalent
<b>Milkprice</b>	28.35	29.10	30.60	29.21	29.32	30.98	27.86

Average price paid during 199-2002 for milk with 3.7% fat (and 3.25% protein) is 1.66 euro or 5% below EU target price. It should be noted EU target price is at factory level and the average calculated milk price is at farm level. Taking into account the transport costs a difference of roughly 1 euro per 100 kg remains.

Average milk price 1999-2002 is 1.46 euro per 100 kg above the theoretical milk price calculated from the intervention prices.

## United States of America and New Zealand

**Graph 5**  
**Average EU producer prices for milk compared with prices paid in the USA and New Zealand**



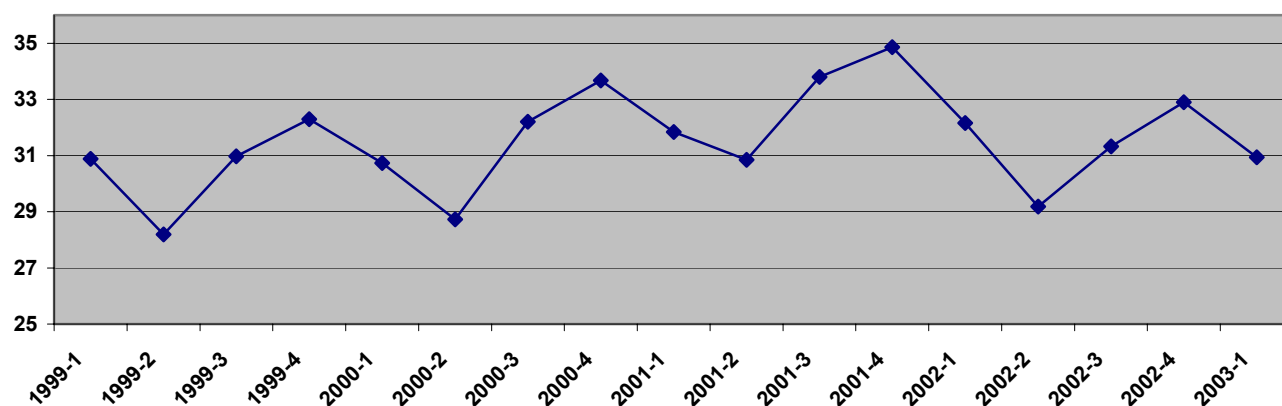
Producer prices for milk paid by the European companies are on average 1.4 euro per 100 kg higher than USA Class III prices for the period 1999-2002. This gap is even lower taking into account Class III is a minimum price and actual milk prices paid to USA farmers is somewhat higher as Class III.

USA milk prices fluctuate more than in Europe.

On average milk price in New Zealand is about half of European milk prices.

## Seasonality

**Graph 6**  
**Quarterly arithmetic average producer prices paid by European dairies for standard milk**



The milk prices paid during the year are always lowest in the second quarter of the year and highest in the last quarter. This can be explained by the price incentives of the dairy industry to level out peak production in the second quarter and low production during the end of the year.

## Dairy product prices

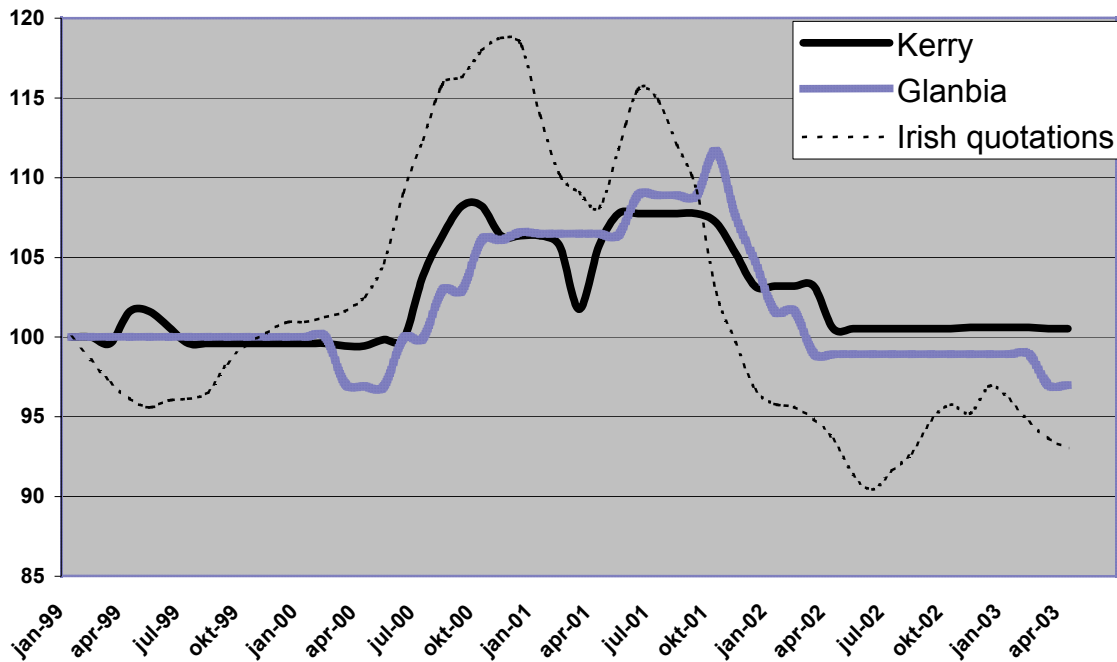
Analyses can be made from January 1999 onwards as from this date milk price data are collected. An analysis is made of the relation between producer prices paid for raw milk and market returns based on price quotations for some dairy products. To make a more in depth analysis first of all milk prices should be deseasonalised, which is complicated because in many payment systems the seasonal price incentives are 'hidden' in monthly basic price and or fat and protein prices. Because the Dutch and Irish milk pricing systems have explicit seasonal bonuses and deduction, the analysis is limited to the companies from these countries.

Regarding market returns the analysis is restricted to a simple product mix of bulk products (commodities), namely cheese (cheddar or Gouda), skimmed milk powder and butter. In this analysis the monthly producer prices paid by the Dutch and Irish dairy companies are compared with a weighted combination of dairy prices quotations<sup>4</sup>.

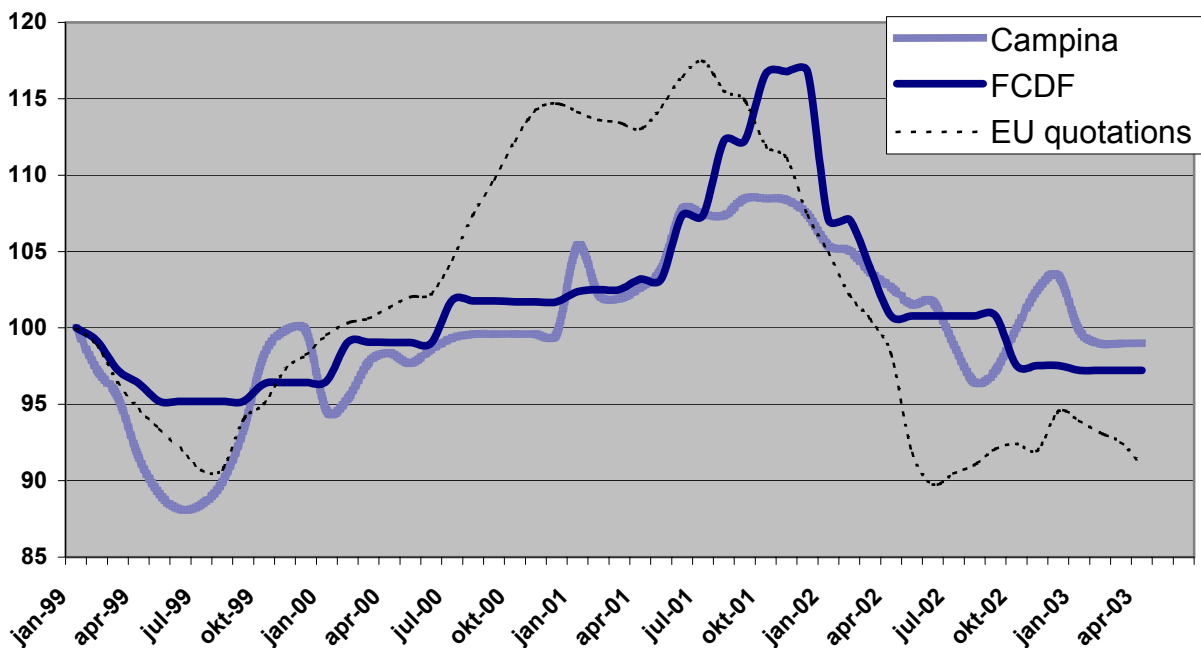
<sup>4</sup> The monthly producer prices paid by Kerry and Glanbia are compared with price quotations for English cheddar (weight 30%) and butter and skimmed milk powder (together 70%). Prices paid by Campina and FCDF are compared with quotations for Gouda cheese (weight 50%) and butter and skimmed milk powder (together 50%). Dr Michael Keane and Mr Declan O'Connor of the Department of Food and Development, University College Cork, Cork City, Ireland provided the input for this analysis.

**Graph 7**

**Monthly producer prices for milk paid by Kerry and Glanbia compared with weighted price quotations of English Cheddar (weight 30%) and skimmed milk powder and butter (weight together 70%)**



**Graph 8. Monthly producer prices for milk paid by Campina and FCDF compared with weighted price quotations of Gouda cheese (weight 50%) and skimmed milk powder and butter (weight together 50%).**



Graphs 7 and 8 indicate the changes in producer prices for milk are delayed and levelled out compared to the changes in the prices for bulk and commodity products.

## Appendix 1 Method and assumptions

### 1. Method

Milk payments receipts (one per dairy company) are collected by the European Dairy Farmers (EDF) from various members. These receipts constitute the main input of the project. The milk payment systems adopted by each company were analysed by means of these receipts. Together with additional information a calculation model is developed.

This model is able to calculate the monthly milk price using:

1. Monthly data from milk payment receipts, such as fat and protein prices, bonuses or deductions etc.;
2. External data, such as exchange rates etc.

Using these data, the model can calculate the monthly milk prices for different:

- a) Fat and protein contents;
- b) Somatic cell counts and total bacterial counts;
- c) Quantity of milk delivered per year.

The values of these parameters built into the calculation model are chosen in such a way that a certain standard of quality and scale of deliveries is represented.

The monthly milk prices are weighted on the basis of the national seasonal pattern of deliveries to get a rolling 12-month average.

It must be emphasised that the result of these calculations is NOT a comparison of the average prices actually paid by the dairies, but the price each company would have paid for a certain standard quality and quantity of milk based on its own payment system.

### 2. Chosen standards for fat and protein contents, quality and annual delivery

- a) Fat and protein contents

The chosen fat and (crude) protein contents of 4.20 % and 3.35 % (weight percentages) correspond to European averages.

- b) Annual delivery

A total annual delivery of 350,000 kg has been chosen.

- c) Quality

Standard total bacterial count (tbc) is 24,999 per ml and somatic cell count (scc) 249,999 per ml.

It is assumed that the majority of the milk produced in European countries, which are part of the comparison is able to meet total bacterial counts and somatic cell counts of 24.999/ 249.999 or less.

For this reason the standard quality has been changed compared to earlier publications!

- d) The former quality standards were tbc 50,000 per ml and scc 300,000 per ml. For a number of companies the present quality standard has a positive effect on the milk price. The consequences of the adjustment of standard quality for the milk prices are shown in chapter 5.

### 3. Milk price per calendar year

The milk prices for a calendar year are the weighted averages of the monthly milk prices from January to December. The monthly weights are derived from the national seasonal pattern of deliveries.

### 4. Supplementary payments for end of the year profits

For a number of dairies, mainly coops, the monthly milk price is not the final price, but an advance payment. In these cases the final or definitive milk price can be defined as the advance payment plus the supplementary payments depending on which part of the end of year profits of the dairy company are distributed to the member-suppliers. The end of the year profits can also be added to the general reserves or be added to registered capital.

These supplementary payments are included in the definitive milk prices insofar as they are clearly linked to the quantity of milk delivered and actually distributed to the members. Dividend on shares not linked to the milk delivered and/or additions to the general reserves (these reserves are not allocated to the members but 'in dead hand') is excluded from the supplementary payments.

Supplementary payments are adjusted if the remuneration for the capital invested in the company by the member suppliers is below the market rate (lower than the interest paid on 10 year government bonds)<sup>5</sup>.

Adjustment of supplementary payments according to the date of payment has been made<sup>6</sup>.

### 5. Other assumptions

Prices have been converted to Euro's by using the fixed rates (Euro zone) or the monthly average of the daily exchange rates.

Volume is converted to weight by using a conversion rate of 1 litre equals 1.03 kg. Other conversion rates used are:

- 1 gallon equals 4.5461 litre;
- 1 cwt (USA) equals 45.36 kg.

In Denmark, Sweden and Germany payment of milk is based on kilograms, but the conversion factor used for deliveries is fixed at 1.02. To make the prices comparable one conversion factor is chosen, namely 1 litre equals 1.03. As a consequence the prices in Denmark, Sweden and Germany are corrected (reduced) by multiplying with a factor 1.02/1.03 (is about minus 1%).

Prices are farm gate prices.

If collection costs are deducted or a bonus is paid if fewer collections are made, the comparable milk price is based on collection every other day.

Payment dates have yet not been taken into account in the monthly milk price calculations (contrary to the supplementary payments that have been adjusted for date of payment). A correction for date of payment of monthly milk prices has little impact on the level of milk prices, because dates of payment do not vary a lot between the companies.

Prices are exclusive of Value Added Tax (VAT) and before deductions of any levies.

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<sup>5</sup> In that case the supplementary payment has been adjusted for an interest loss based on the long-term (10- year) government bond yields.

<sup>6</sup> Payment has been adjusted by an interest loss based on the number of days between the date of payment and the date in the middle of the delivering period and an interest rate (yearly average of 3- month interest rates for the different EU member states as published by the European Central Bank).

## Appendix 2 Dairies and milk payment systems

In this appendix further information about the dairies is presented, namely:

1. Belgomilk (Belgium)
2. Humana Milchunion and Nordmilch (Germany)
3. Arla Foods (Denmark and Sweden)
4. Kymppi (Finland)
5. Bongrain, Danone, Lactalis and Sodiaal (France)
6. Express Dairies and Frost Milk (United Kingdom)
7. Glanbia and Kerry (Ireland)
8. Parmalat
9. Campina and Friesland Coberco Dairy Foods (Netherlands)
10. USA and New Zealand

### 1. Belgomilk (Belgium)

Belgomilk is a cooperative with (2001) 4,142 member suppliers.

Fat and protein value of the milk is calculated by multiplying the fat and protein prices with the contents. The fixed ratio between fat and protein value of 45/55 changed from January 2003 onwards to 40/60.

Though the qualifying criteria for the so-called AA-premium comply with the standards of 24,999 and 249,999 for the total bacterial count and somatic cell count respectively, the AA-premium (0.74 euro/100-kg) has not been included in the calculated milk price until June 2002. The reason is that other qualifying criteria for this premium (e.g. animal health) mean that only about 30% of the milk is qualified. From July 2002 this AA-premium is replaced by another quality premium of 0.75 euro per 100 kg. Because most milk is qualified this premium is contrary to the AA-premium included in the calculated milk price.

Since January 2001 farmers of Belgomilk receive an IKM-premium (0.10 BEF/l or 0.25 eurocent/l). IKM is an integral quality system for dairy farming in Belgium. The IKM-certificate guarantees a safe product. Most of the farmers of Belgomilk qualify for this premium.

One of the characteristics of the Belgomilk payment system is the relatively high volume bonus from a yearly delivery of 170,000 litres and more. In the calculated milk price a significant quantity bonus (0.99 euro per 100 kg) is included, which corresponds with an annual delivery of 350,000 kg.

Belgomilk had no supplementary payments for 2002 the additional payments during 2002 (0.42 per kg protein) are included in the calculated monthly milk prices.

No correction is made for invested capital because member investments are voluntary and a market conform dividend is paid.

### 2. Humana Milchunion and Nordmilch (Germany)

The group Humana Milchunion is formed by the parent company the cooperative Humana Milchunion eG and subsidiaries. The calculated milk prices are based on the payments for member suppliers of the parent company.

The milk price for Nordmilch is based on the member suppliers of the cooperative Nordmilch eG.

In Germany milk payment is based on a monthly basic price for 3.7% fat and 3.4% protein and quality class I. This basic price ("Grundpreis") is adjusted for actual fat and protein levels, using fixed fat and protein values.

Since January 2001 Nordmilch gives a quantity bonus (0.106 euro per 100 kg for an annual delivery of 350,000 kg).

From January to December 2002 Humana Milchunion eG has paid extra bonuses (0.60 euro per 100 kg) on the milk price. These additional payments (“Nachzahlungen”) are not regarded as supplementary payments, but retrospectively added to the milk prices paid in these months. These additional payments (“Nachzahlungen”) are included in the milk prices of these months.

A correction is made for invested capital based on member participating units for Humana and Nordmilch of 5.11 and 4.00 euro per 100 kg. This correction results in a negative figure for supplementary payments of 0.25 and 0.20 per 100 kg for Humana respectively Nordmilch

### **3. Arla Foods (Denmark and Sweden)**

Arla Foods is owned by a cooperative with 7,103 members in Denmark and 6,539 in Sweden. A quantity of 7.04 mln tonnes of raw milk is processed in Denmark (3.96 mln tonnes), Sweden (2.16 mln tonnes) and 0.92 mln tonnes elsewhere, mainly UK.

Since the merger (April 2000) between Swedish Arla and the Danish MD Foods, Arla Foods is working on harmonisation process of the milk pricing system that will be definite in October 2003. As long as different prices are paid to Danish and Swedish producers, both milk prices are calculated in this milk price comparison.

In 2002 Danish suppliers receive a high quality bonus of 1.20 euro per 100 kg for milk with a total bacterial count less than 25,000 and a somatic cell count less than 300,000 per ml.

Some characteristics of the payment system of Arla Foods are the two weekly payments (only for Danish suppliers) and the seasonal price differentiation. All seasonal bonuses and deductions are not added or deducted from the two weekly milk cheques but are paid/ received as a lump sum after the end of the financial year.

The financing system by the Danish members of the cooperative is not based on capital investments, but based on guarantee certificates. These certificates are not taken into. Therefore the supplementary payments are only corrected for date of payment.

The supplementary payments for Swedish members are corrected for invested capital and date of payment.

Because the financial year of Arla Foods started in October and has ended 30 September, the most recent supplementary payment over 2001/2002 (6% of the so called basic value for Danish member suppliers and 1.16 euro per 100 kg for Swedish member suppliers) have also been applied to the last three months of 2002.

### **4. Kymppi (Finland)**

Kymppi is a group of dairy cooperatives.

A relatively high quality bonus of 1.65 euro per 100 kg is paid for milk with a total bacterial count and somatic cell count of less than 50,000 respectively 250,00 per ml.

Part of the supplementary payments is not paid in cash, but added to the registered capital. Because market conform interest is paid on this registered capital this payment is part of the supplementary payment in the comparison.

Because Kymppi also gives additional compensation for interest loss, the supplementary payments in the milk price comparison are not corrected for date of payment.

The calculated supplementary payments for 2002 are 2.42 euro per 100 kg.

## 5. Bongrain, Danone, Lactalis and Sodiaal (France)

Bongrain is a private company specialized in cheese. The milk price calculations are based on the region Basse Normandy. Also Danone and Lactalis are private companies. Milk prices of these companies are based on the region Nord Pas de Calais respectively Pays de la Loire. Sodiaal is a cooperative formed by six regional cooperatives. Milk price calculation is based on deliveries to Sully a coop in the region Nord Pas de Calais.

Development of the milk prices in France is based on quarterly national recommendations. These recommendations are based on an agreement between representatives of the dairy industry and farmers. In fact the recommendations are absolute price increases or decreases per litre compared with the same quarter a year ago. This is the so-called French indexation system. The dairies follow these recommendations.

Further, the precise payment systems are dependent on the location of the dairy company. Different regions have their own interprofessional regional agreements regarding contents and quality. For this reason the name of the region concerned has been added to the name of the company between brackets.

All the regional payments systems are based on a reference price for a litre of milk that contains 38 grams fat and 32 grams of true protein<sup>7</sup>. The French true protein contents are converted to crude protein by multiplying them with a factor 100/95. The milk price paid is the reference price adjusted for actual fat and protein contents and actual quality.

## 6. Express Dairies and First Milk (United Kingdom)

Express Dairies is a plc (public limited company). Notwithstanding the fact that most shares are held by farmer suppliers, shares are quoted at an external stock exchange. No correction is made for invested capital (and paid dividend is also not included). If the national competition authority agrees Express Dairies will merge with UK subsidiary of Arla Foods.

First Milk is the result of a merger of 'Axis' and 'Scottish Milk' in 2001. Milk prices before April 2001 are based on the payment system of Axis<sup>8</sup>.

Express Dairies limits milk payment for protein to a maximum of 3.30%. This is due to their high liquid milk sales, which makes it difficult to earn a return on higher protein contents.

The milk price calculation of Express Dairies is based on input from South England. Depending on the distance to the factory different milk pricing is possible.

There have been no supplementary payments for 2002.

## 7. Glanbia and Kerry (Ireland)

Glanbia is quoted at the stock exchange however most shares are owned by a cooperative. The group Kerry is an international food company. The acquisition of Golden Vale strengthen their position on the dairy market, especially cheese.

The main characteristic of the Irish milk production is the high seasonal fluctuation. As a consequence Irish companies pay very high winter milk bonuses, especially for liquid milk. Since April 2001 Glanbia milk suppliers get one unit of convertible loan stock (1 pence per gallon) or 0.28 eurocent/litre) as part of the milk price. In five years, the accumulated loan stock will be

<sup>7</sup> All the other countries -except United States of America- express their protein level in crude protein. Crude protein includes also non-protein sources. True protein is about 95% of crude protein (or crude protein is about 100/95 x true protein).

<sup>8</sup> April 1<sup>st</sup> 2000 Milk Marque split into 3 regional cooperatives, i.e. Zenith (North) , Axis (Mid) and Milk Link (South). Before this date milk Axis prices are based on Milk Marque.

converted to a special class of shares where they will get a one-for-two bonus. Effectively this is a 50 percent return. For this reason the payment of these units is part of the milk price.

Kerry and Glanbia are companies with no supplementary payments in 2002.

## **8. Parmalat**

In Italy there are national agreements about the industrial milk price and payment systems in the different regions. In the milk price comparison the milk price calculation of Parmalat is based on the contracts between Parmalat and dairy farmers in the province of Parma in the region Emilia-Romagna (represented by AIPLE<sup>9</sup>). The year following March 2000 however, the contract was not prolonged. Therefore the milk price for the year April 2000 to March 2001 is based on a National Agreement.

The Parmalat milk price in this comparison is based on the so-called industrial milk, which has a different price from milk that is destined to special cheeses. The price of milk destined for Parmesan cheese, for example, is about one third higher than industrial milk

Parmalat is a private company with no supplementary payments.

## **9. Campina and Friesland Coberco Dairy Foods (Netherlands)**

The cooperative Campina owns the Campina group. All the shares of Friesland Coberco Dairy Foods (FCDF) are also owned by a cooperative, named 'De Zeven Provinciën'.

The target for FCDF and from 2003 onwards Campina is to pay 95% of the milk price on account and 5% as a supplementary payment.

The quality payment of Campina and FCDF is based on a pooling system, so the sum of deductions for lower quality is distributed to farmers who deliver first class milk. A quality premium of 0.04 euro per 100 kg is part of the calculated milk price.

The supplementary payments made by Campina have -besides a correction for date of payment- been corrected for capital invested through the members by participating units. No interest is paid on these units. Part of the profits is not distributed in cash, but as subordinated bonds. The value of these subordinated bonds to the members has been included in the supplementary payments, because a market conform interest is paid. The supplementary payments for Campina are calculated at 4.02 euro per 100 kg for 2002.

The supplementary payments in this comparison in respect of end-of-the year profits include for FCDF the so-called dividend A. This dividend is in fact a percentage of the milk price paid in advance. Dividend paid on B-shares is excluded from the supplementary payment in the milk price comparison, because B-shares are not linked to the milk delivered. The calculated supplementary payments are 1.95 euro per 100 kg for FCDF.

## **10. USA and New Zealand**

The milk prices of the United States and New Zealand give an impression of the milk price development and the price level outside the European Union.

The milk price calculated for the USA is based on the USDA announcement of monthly Class III and component prices and is adjusted to take account of the standards adopted for fat, protein and somatic cell count.

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<sup>9</sup> AIPLE= Associazione Interprovinciale Produttore Latte van de province Parma.

The Class III price can be seen as a kind of minimum milk price paid to producers. The class III price is based on milk that is processed into cheese. Because part of the milk is also processed into higher value added dairy products, the actual paid out prices to producers will be higher.

New Zealand milk prices are based on prices paid by the Fonterra Cooperative Group Ltd (Fonterra).

The monthly (advance) milk prices of New Zealand are based on the 'advance payments' of Fonterra. The advance milk price starts modest in June but increases during the season that continues until May. The end-of-the-season payment is the definitive milk price for the dairy season. In the milk price comparison, the rolling average milk price of Fonterra is based on the most recent forecast of the end-of-season payout.

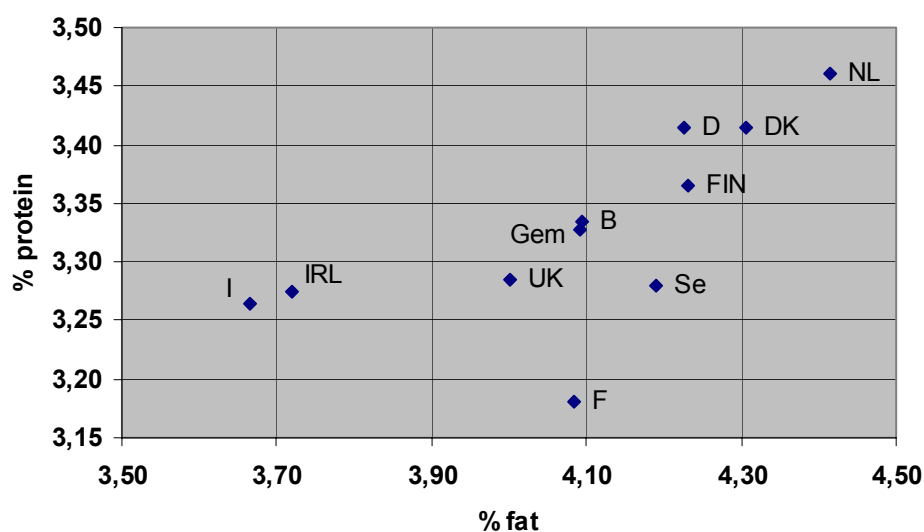
Milk prices expressed in milk solids<sup>10</sup> have been adjusted for 4.2% fat and 3.35 % protein. The prices have not been adjusted for invested capital. Dairy farmers who supply to Fonterra have to buy shares related to the quantity of milk delivered.

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<sup>10</sup> Milk solids is the sum of fat and protein contents.

## Appendix 3 Additional information

### Average fat- and protein contents of milk



### Average raw milk production per farm

Source: Productschap Zuivel

	kg
Netherlands	405,000
Belgium and Luxembourg	210,000
Denmark	594,000
Germany	223,000
Finland	128,000
France	208,000
Ireland	198,000
Italy	166,000
United Kingdom	587,000
Sweden	306,000
EU	245,000
Australia	989,000
New Zealand	906,000
USA	837,000

## Calculation intervention milk price equivalent

				euro per 100 kg milk
<b>Butter</b>	Intervention buying in price (=90% of 328.20)	295.38		
	Processing costs	<u>29.31</u>		
		266.07	X 3.7/83.74=	11.756
<b>Skimmed milk powder</b>	Intervention price	205.52		
	Processing costs	<u>28.34</u>		
		177.18	X 11 =	<u>16.107</u> 27.863

The calculation is based on milk with 3.7% fat and butter with 83.74% fat and for 11 kg milk is needed to process 1 kg of skimmed milk powder.

## Eurostat Milk Prices (Euro per 100 kg, 3,7% fat, ex farm)

Country	1999	2000	2001
Germany	28.47	30.00	32.82
France	28.11	28.81	30.00
Italy	34.23	n.a.	n.a.
The Netherlands	28.62	29.15	31.27
Belgium	26.33	27.44	28.58
United Kingdom	26.13	26.09	29.16
Ireland	26.66	27.20	28.55
Denmark	30.26	30.86	32.34
Finland	32.15	32.72	33.97
Sweden	33.11	34.74	31.22