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The collection of cows' milk in the European Union (EU 15), 1995 to 2002

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LITTLE CHANGE IN THE VOLUME OF COWS' MILK COLLECTED BETWEEN 1995 AND 2002

The situation regarding the collection of cows' milk in the European Union between 1995 and 2002, i.e. between two enlargements, can best be described as one of "controlled stability". Such was the overall trend in the collection of cows' milk by dairies or their authorised buyers between the European Union's enlargement from 12 to 15 Member States and the last year for which the data will be available for EU 15 (before the fifth enlargement brings the number of Member States to 25 in 2004).

The collection of cows' milk remained fairly stable between 1995 and 2002. It totalled 113 728 MT (MT = 1 000 tonnes) in 1995, rising to 114 531 MT in 2002 (see Table 1 and Diagram 1.1), a change of less than 1% (0.71%).

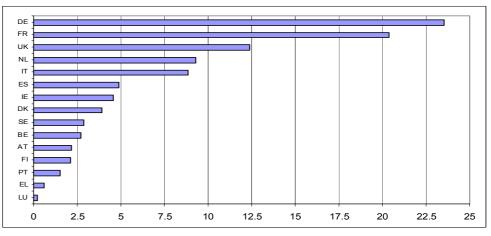
Table 1. Collection of cows' milk in EU 15 between 1995 and 2002, in 1 000 t

	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2002
EU 15	113728.1	113704.1	113575.9	113695.6	114946.3	114282.2	114887.1	114531.2	114168.8
BE	2972.3	3021.7	2943.7	3286.7	3264.2	3124.5	3088.1	2894.7	3074.5
DK	4473.0	4495.0	4433.0	4468.0	4456.0	4519.0	4417.8	4455.1	4464.6
DE	26774.2	26991.0	26986.5	26752.4	26783.1	26984.3	26882.6	26582.8	26842.1
EL	643.6	607.8	616.7	647.9	655.8	669.5	706.0	711.0	657.3
ES	5602.0	5547.4	5463.4	5482.0	5664.2	5413.2	5763.0	5933.0	5608.5
FR	23413.0	23207.8	23045.0	23032.0	23109.0	23303.4	23225.0	23622.4	23244.7
IE	5288.2	5297.1	5256.3	5091.0	5121.0	5160.0	5338.0	5185.9	5217.2
IT	9911.2	10132.7	10130.0	10292.0	10325.4	10083.6	10005.8	9912.2	10099.1
LU	250.0	250.0	255.1	255.2	257.7	255.6	260.8	261.2	255.7
NL	10825.0	10535.0	10458.0	10541.0	10777.0	10545.0	10828.4	10357.1	10608.3
AT	2292.0	2342.0	2419.0	2448.0	2540.0	2660.8	2653.7	2648.8	2500.5
PT	1600.3	1631.7	1661.9	1696.0	1844.1	1892.9	1822.5	1933.8	1760.4
FI	2365.4	2328.8	2370.1	2362.6	2394.3	2442.1	2449.3	2447.5	2395.0
SE	3243.0	3258.3	3276.4	3277.5	3299.0	3296.7	3290.3	3226.4	3270.9
UK	14075.0	14057.8	14260.8	14063.3	14455.6	13931.5	14155.7	14359.3	14169.9

The 1995 and 1996 data for Luxembourg have been revised.

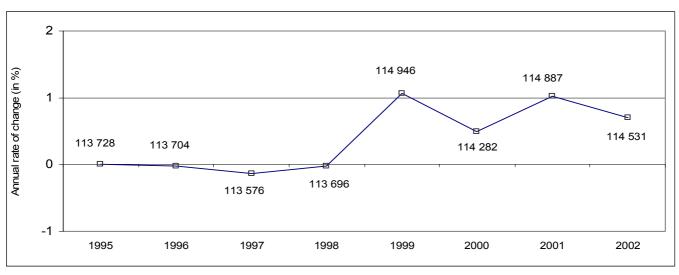
Data source: Eurostat NewCronos (ZPA1 - Milk), extraction date: 01/08/2003.

Diagram 1.1. Relative share of each Member State (EU 15 = 100) in the collection of cows' milk between 1995 and 2002, in %



Data source: Eurostat.

Diagram 1.2. Changes in the collection of cows' milk by dairies in EU 15 between 1995 and 2002 (base year: 1995)



Rate of change (in %), Reference year: 1995 The raw annual data on milk collection in EU 15 are expressed in 1 000 t. Data source: Eurostat.

The annual rate of change between 1995 and 2002, shown in Diagram 1.2, was calculated taking 1995 as the reference year (see the methodological note at the end of this publication).

Table 2. Overall changes in the collection of cows' milk between 1995 and 2002 in EU 15(base year: 1995)

Member State	Collection in 1995, 1 000 t Column 1	Overall collection since 1995, 1 000 t Column 2	Collection in 1995, multiplied by 8, 1 000 t Column 3	Cumulative differences in collection (base year: 1995) from 1995 to 2002, 1 000 t Column 4 ^(*1)	Average annual difference, 1 000 t Column 5 ^(*2)	Average annual change between 1995 and 2002, in % (base year: 1995) Column 6 ^(*3)
EU 15	113728.1	913350.6	909825.1	3525.5	503.64	0.44
BE	2972.3	24595.9	23778.4	817.5	116.79	3.82
DK	4473.0	35716.9	35784.0	-67.1	-9.59	-0.22
DE	26774.2	214736.9	214193.5	543.4	77.63	0.29
EL	643.6	5258.3	5148.8	109.5	15.64	2.27
ES	5602.0	44868.2	44816.0	52.2	7.46	0.09
FR	23413.0	185957.6	187304.0	-1346.4	-192.35	-0.82
IE	5288.2	41737.5	42305.6	-568.1	-81.16	-1.55
IT	9911.2	80792.9	79289.6	1503.3	214.76	2.16
LU	250.0	2045.7	2000.0	45.7	6.52	2.60
NL	10825.0	84866.5	86600.0	-1733.5	-247.64	-2.30
AT	2292.0	20004.3	18336.0	1668.3	238.33	10.27
PT	1600.3	14083.2	12802.0	1281.1	183.02	11.22
FI	2365.4	19160.1	18923.2	236.9	33.85	1.41
SE	3243.0	26167.6	25944.0	223.6	31.94	0.98
UK	14075.0	113359.0	112599.9	759.1	108.44	0.76

 $^{(*1)}$ Column. 4 = column 2 - column 3

 $^{(*2)}$ Column. 5 = column 4 / 7

(*3) Column. 6 = column 5 / column 1 (x 100)

Data source: Eurostat.



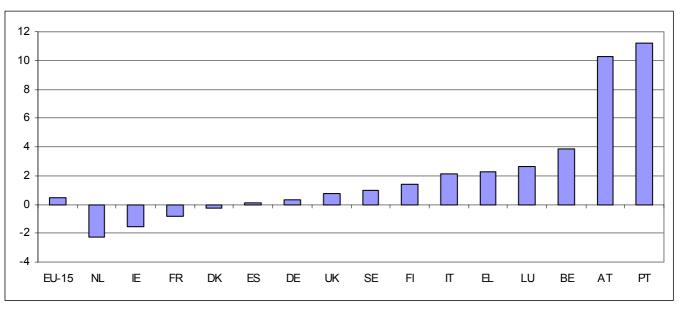


Diagram 2. Average annual change between 1995 and 2002, in % (base year: 1995)

Data source: Eurostat

1995 was taken as the reference year. A comparison of the Member States' contributions to the changes in EU 15 between 1995 and 2002 (0.44%) allows us to draw a number of conclusions (see Diagram 2).

➤ <u>The collection of cows' milk in all</u> <u>the Member States remained fairly</u> stable between 1995 and 2002.

Firstly, the average annual change in EU 15 was generally less than 1% (0.44%), which may indicate that the policy of quota management within the 15 Member States had the effect of controlling the "production / collection" of cows' milk during the period under review.

➢ <u>As regards the average change</u> in the collection of cows' milk during the period, the EU Member States divide into three groups: four countries (NL, IE, FR and DK) show negative average annual rates of change in collection, while in five countries (ES, DE, UK, SE and FI) the rate is relatively stable, with bigger changes being recorded in six countries (IT, EL, LU, BE, AT and PT). The first group comprises Member States with a strong tradition of dairy farming, and which saw a slight downward trend in milk collection.

The second group, which accounts for more than one-third of dairy collection in the Union, did not see any major variation, while collection in the third group, particularly Austria and Portugal, saw bigger changes.

These differences may indicate a redistribution or rebalancing of "production / collection" of milk under the milk quota system.

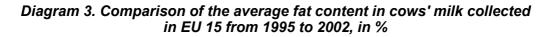


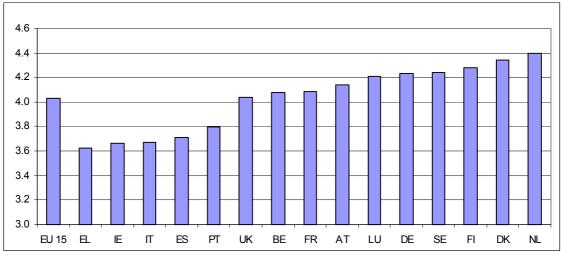
FAT AND PROTEIN CONTENT IN COWS' MILK BETWEEN 1995 AND 2002 IN THE 15 MEMBER STATES OF THE EUROPEAN UNION

	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2002
EU 15	4.02	4.06	4.04	4.05	4.03	4.02	4.03	4.03	4.03
BE	4.02	4.07	4.08	4.11	4.06	4.08	4.10	4.07	4.07
DK	4.35	4.44	4.36	4.36	4.32	4.28	4.33	4.29	4.34
DE	4.25	4.27	4.24	4.25	4.22	4.22	4.23	4.20	4.24
EL	3.62	3.61	3.61	3.65	3.64	3.64	3.61	3.64	3.63
ES	3.67	3.69	3.67	3.69	3.73	3.75	3.75	3.75	3.71
FR	4.05	4.11	4.10	4.12	4.08	4.08	4.09	4.08	4.09
IE	3.58	3.59	3.61	3.67	3.70	3.70	3.74	3.73	3.66
IT	3.64	3.67	3.66	3.71	3.70	3.65	3.65	3.67	3.67
LU	4.18	4.25	4.23	4.26	4.20	4.19	4.17	4.18	4.21
NL	4.40	4.43	4.41	4.37	4.34	4.40	4.43	4.43	4.40
AT	4.08	4.19	4.11	4.13	4.15	4.13	4.17	4.17	4.14
PT	3.70	3.81	3.80	3.80	3.78	3.80	3.83	3.84	3.79
FI	4.34	4.33	4.32	4.31	4.25	4.23	4.23	4.22	4.28
SE	4.33	4.29	4.28	4.26	4.19	4.18	4.20	4.17	4.24
UK	4.05	4.08	4.07	4.07	4.03	4.02	4.00	3.98	4.04

Table 3. Fat content of cows' milk collected in EU 15 from 1995 to 2002, in %

Data source: Eurostat NewCronos (ZPA1 - Milk), extraction date: 01/08/2003.





Data source: Eurostat.

The data on the average fat content in cows' milk collected between 1995 and 2002 (Table 3 and Diagram 3) show that the Member States fall into two groups: the first includes five Member States situated below the European average (EL, IE, IT, ES and PT). Four of these are southern European, while Ireland has extensive cattle-rearing.

The 10 countries in the second group (BE, FR, AT, LU, DE, SE, FI, DK and NL), whose rate is above the European average, include countries in the central and northern parts of the European Union which have a strong tradition of dairy farming.



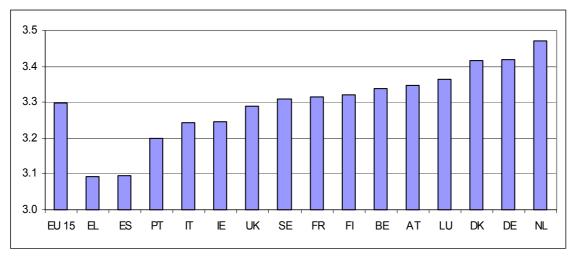
	1995	1996	1997	1998	1999	2000	2001	2002	Average 1995-2002
EU 15	3.26	3.29	3.30	3.30	3.29	3.31	3.31	3.32	3.30
BE	3.42	3.42	3.35	3.24	3.26	3.36	3.35	3.32	3.34
DK	3.41	3.42	3.44	3.43	3.41	3.42	3.41	3.40	3.42
DE	3.40	3.42	3.42	3.43	3.42	3.41	3.42	3.42	3.42
EL	3.06	3.07	3.08	3.20	3.09	3.09	3.04	3.10	3.09
ES	3.07	3.08	3.07	3.07	3.09	3.13	3.13	3.13	3.10
FR	3.15	3.17	3.41	3.36	3.36	3.35	3.35	3.37	3.31
IE	3.24	3.21	3.21	3.24	3.25	3.27	3.28	3.27	3.25
IT	3.19	3.23	3.25	3.24	3.25	3.24	3.27	3.27	3.24
LU	3.34	3.36	3.36	3.37	3.38	3.36	3.37	3.37	3.36
NL	3.48	3.49	3.46	3.43	3.46	3.53	3.46	3.47	3.47
AT	3.20	3.40	3.33	3.34	3.37	3.36	3.40	3.39	3.35
PT	3.15	3.15	3.20	3.19	3.17	3.22	3.27	3.25	3.20
FI	3.28	3.28	3.29	3.29	3.31	3.38	3.35	3.39	3.32
SE	3.34	3.33	3.32	3.31	3.30	3.28	3.28	3.32	3.31
UK	3.24	3.29	3.30	3.30	3.30	3.28	3.29	3.30	3.29

Table 4. Protein content of cows' milk collected in EU 15, from 1995 to 2002, in %

In Italics: estimated data.

Data source: Eurostat NewCronos (ZPA1 - Milk), extraction date: 01/08/2003.

Diagram 4. Comparison of the average protein rates in cows' milk collected in EU 15, from 1995 to 2002, in %



Data source: Eurostat.

As regards the average protein rate between 1995 and 2002, the values for six Member States (EL, ES, PT, IT, IE and UK) were below the EU average. This is the same group of countries where the milk fat content was lower than the EU average, plus the United Kingdom.

In general, the pattern of protein content is similar to that of fat content, which is logical given that there is some degree of correlation between the two components.



Diagram 5. Average fat content (F) and protein content (P) of collected cows' milk, in % (1995-2002)

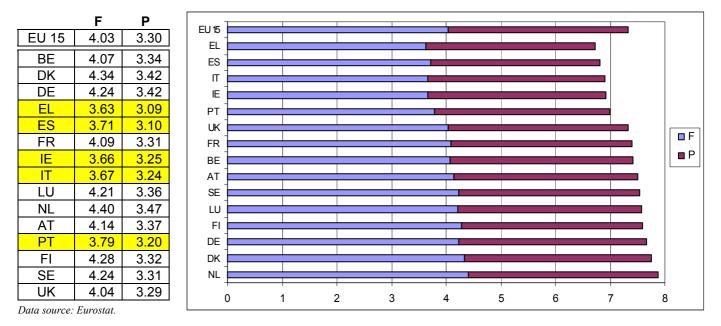


Diagram 5 shows the average fat and protein content over the period under consideration.

If we now examine the difference between the percentages for each Member State and for EU 15 as a whole, we see that the milk produced in nine Member States (FR, BE, AT, SE, LU, FI, DE, DK and NL) is richer than the EU 15 average. These are the Member States in the second group (see Table and Diagram 3 and 4).

Fat and protein are the main types of dry matter found in milk.

In five countries (EL, ES, IE, IT, PT), the share of protein and fat in the dry matter is lower than in EU 15, and consequently some of these countries use a major part of their collected milk to produce cheese rather than butter or cream.

The choice of dairy breed, feed and the conditions under which the livestock is farmed go a long way to explaining these divergences, which are also reflected in differing milk yields.



METHODOLOGICAL NOTES

1995 was chosen as the reference year as it marked the EU's fourth enlargement, to 15 countries. 2002 is the last year for which EU 15 data will be available before 10 new Member States join the EU in May 2004 (the data for 2003 will be available in June 2004, in accordance with current legislation).

References: Council Directive 96/16/EC (OJ L78, 28 March 1996) and Commission Decision 97/80/EC (OJ L24, 25 January 1997)

Collection: This covers all purchases of whole milk (from cows, ewes, goats and buffalo cows) from farms. Only the collection of cows' milk is taken into account in this publication.

Cows' milk: This covers all cows' milk, other than milk used for suckling calves, but including milk obtained from milking (including colostrum) and fed to animals (e.g. in buckets).

Fats: This includes fatty matter expressed as a percentage of the product weight. This is the national average, weighted by data obtained using the Röse-Gottlieb method.

Protein: Milk proteins as a percentage of the product weight. It is the national average, weighted by data obtained using the Kjeldahl method.

Arithmetic mean = Sum of the values / number of values

Average annual growth rate (or geometric mean): Xg = $^{N} \sqrt{(\prod_{i=1}^{N} Xi)}$

Where: Xg: the average annual rate of increase

N: number of years

- Π Xi: product of the annual increase

Rate of change _ closing value - opening value opening value

Codes used for the Member States:

- AT Austria
- BE Belgium
- Germany DE
- DK Denmark
- ES Spain
- EL Greece
- FR France FI Finland
- IT
- Italy
- IΕ Ireland LU
- Luxembourg NL Netherlands
- PT Portugal
- Sweden SE
- UK United Kingdom



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