What is the cost of producing milk?

2023

Cost of milk production in 2023

Germany, the Netherlands, Luxembourg & EU average

What is the cost of producing milk?

Germany Milk production costs

What is the cost of producing milk?

Luxembourg Milk production costs

What is the cost of producing milk?

Netherlands Milk production costs

In 2019, producing one kilogram of milk in the Netherlands cost 44.54 c/kg. With an average milk price of only 32.75 c/kg, farms had to deal with a shortfall of 26%.

In the last five years leading up to 2019, farm-gate milk prices were an average 32.15 c/kg. With the applicable CAP payments (1.80 c/kg), Dutch dairy farms generated an average revenue of 33.95 c/kg. The shortfall to simply cover their paid costs (costs of farming inputs and general operating costs) was thus 1.93 c/kg. Paid costs over the last five years were an average 35.88 c/kg.

The average dairy farm in the Netherlands only makes an insignificant profit that barely allows it to survive and needs write-offs to stay in business. As a result, investments on Dutch dairy farms have dropped sharply since 2015.

The income variable for labour costs on family farms was 9.21 c/kg in the last five years since 2015. It was calculated on the basis of an average hourly wage of 24.00 euros (including employer contributions).

Overview of milk production costs in 2019

	Cost items	in c/kg
	Purchased feed	11.58
	Fodder production (seeds, fertilizers, plant protection products, other)	1.36
	Livestock costs (veterinary costs, insemination, etc.)	4.18
	Building & machinery upkeep	1.61
	Energy	2.76
	Contract work	2.60
	Wages paid	1.16
	Other farming overheads	2.46
	Rent paid	2.03
	Depreciation	5.46
	Interest and taxes	3.49
–	**Production value of beef**	– 1.81
=	**Paid costs of milk production (for collected milk only)**	= 36.88
+	**Income variable (labour costs)**	9.24
=	Total costs	= 46.12
–	**CAP payments**	– 1.58
=	**Milk production costs**	**44.54**
+	**Net investments (10-year average)**	5.12
=	**Milk production costs including net investments**	= 49.66

What is the cost of producing milk?

EU average Milk production costs

Milk production costs in the EU increased from 41.18 c/kg in 2015 to 45.35 c/kg in 2019. The average farm-gate milk price in 2019 was 34.52 c/kg, which means that there was a shortfall of 24%.

Over the last five years, milk production costs were an average 42.53 c/kg. From milk price and CAP payments combined, EU dairy farms generated a revenue of 36.01 c/kg in this period. The costs for farming inputs and general operating costs (paid costs) were an average 33.98 c/kg. The surplus of 2.03 c/kg covered only 17% of the reported income variable of 12.05 c/kg. Revenue generated through the milk price and CAP payments is not enough to ensure an adequate income on dairy farms in Europe.

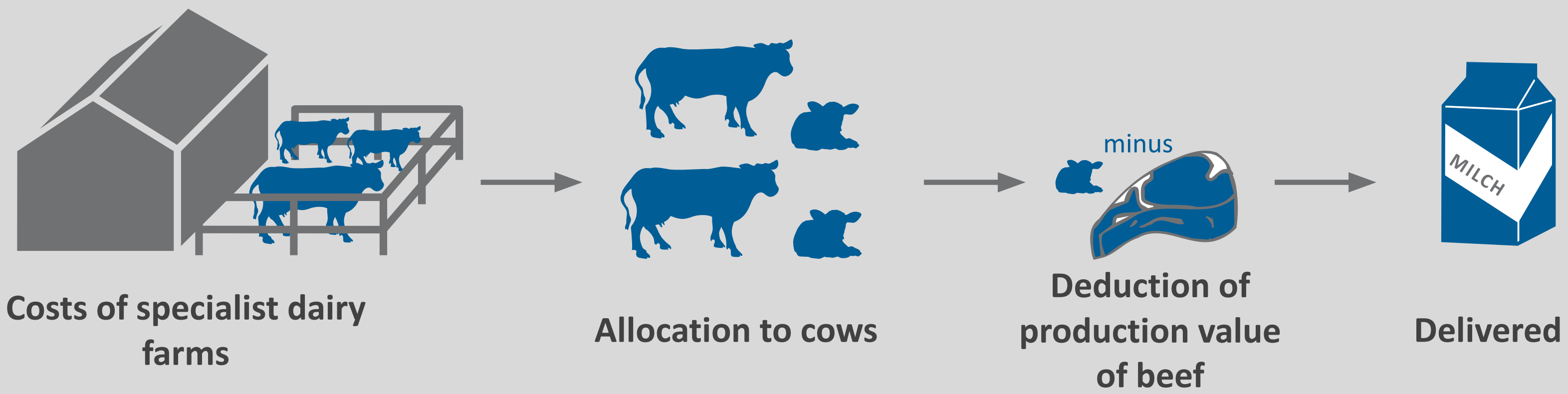
Milk production costs here were calculated on the basis of FADN averages for 26 EU Member States (excluding Greece and Cyprus, with the United Kingdom). For the countries that are not yet included in the cost study, the income variable was fixed at twice the national legal minimum wage. The income variable of 12.39 c/kg for 2019 was calculated on the basis of an average hourly wage of 19.85 euros including employer contributions (weighted average according to milk production volume).

Overview of milk production costs in 2019

	Cost items	in c/kg
	Purchased feed	12.71
	Fodder production (seeds, fertilizers, plant protection products, other)	2.60
	Livestock costs (veterinary costs, insemination, etc.)	3.44
	Building & machinery upkeep	3.41
	Energy	2.83
	Contract work	2.65
	Wages paid	2.55
	Other farming overheads	2.21
	Rent paid	1.86
	Depreciation	6.01
	Interest and taxes	1.50
–	**Production value of beef**	– 5.35
=	**Paid costs of milk production (for collected milk only)**	= 36.42
+	**Income variable (labour costs)**	12.39
=	Total costs	= 48.81
–	**CAP payments**	– 3.46
=	**Milk production costs**	**45.35**
+	**Net investments (10-year average)**	1.69
=	**Milk production costs including net investments**	= 47.04

Methodology and data

Cost calculation based on EU Dairy Farms Report
Using FADN data



With the following adjustments:

1. Calculation of milk production costs are **only representative for commercial specialist dairy farms.**
2. Labour costs are calculated using an **independent income variable** based on collective agreements in the agricultural sector or twice the minimum wage.
3. The **subsidies are seen as revenues** (deducted from costs), **imputed costs for land and capital are presented separately**.
4. Extrapolation to current situation (FADN data 2021, trend 2022 + 2023).

Comparison of the BAL/EMB method with other methods

	BAL/EMB	Full cost calculation / BZA	IDELE/ INOSYS	IFCN
	FADN – EU - national	Participating farms in regions	Participating farms in regions	Typical farm (model)
Representativeness	✓	×	×	×
Actual operating results	✓	✓	✓	×
Annual update	✓	✓	✓	✓
Harmonised data	✓	×	?	?
Internationally comparable	✓	×	×	✓
Regionally comparable	✓	×/✓	×/✓	×/✓
Widely available data for countries/ federal states/ regions	✓/✓/×	×/×/✓	✓/✓/×	✓/×/×
Public access to basic data	✓	×	×	×

Cost shortfall in 2023 (in c/kg)

Milk production costs, farm-gate milk price and cost shortfall in 2023 (in c/kg)

Country	DE	NL (Q1 2023)	LU	Ø EU***
Production costs* (final results excl. net investments)	46.36	51.62	49.78	49.73
Milk price in c/kg**	45.34	48.86	45.06	46.98
Cost shortfall in c/kg	-1.02	-2.76	-4.72	-2.75
Cost shortfall in %	-2%	-5%	-9%	-6%

* All results of 2022 and 2023: trend calculations by BAL based on FADN 2021 (DE and NL) and FADN 2022 (LU and EU) and Eurostat.
** The stated farm-gate milk prices refer to natural fat and protein contents (according to data from the MMO) or to 4% fat and 3.4% protein
*** Preliminary trend result. The result for the EU average in 2023 is based on the data available in the FADN 2022 from the member states (excluding DE, GR, CY)

Composition of costs in 2023 (in c/kg)*

Country	DE	LU	NL (Q1 2023)	Ø EU****
Input costs** (final result without net investments)	23.34	28.82	25.61	26.68
General operating costs***	23.31	26.37	22.34	21.46
Production value of beef (deducted)	-9.06	-9.55	-4.32	-7.18
Paid costs (production costs after deduction of production value of beef)	**37.59**	**45.64**	**43.63**	**40.96**
Income variable (labour costs)	11.51	11.54	9.75	12.60
Total milk production costs	49.10	57.18	53.38	53.56
CAP payments (deducted)	-2.74	-7.40	-1.76	-3.83
Milk production costs (final result)	**46.36**	**49.78**	**51.62**	**49.73**
Net investments (Ø last 10 years)	1.81	5.04	4.12	1.63

* All results of 2023: trend calculations by BAL based on FADN 2021 or 2022 and Eurostat.

** Seeds, fertilizers, plant protection products, bought-in feed, equipment & machinery upkeep and energy.

***Other specific costs for plant and animal production and all non-specific costs like contract work, other farming overheads, paid wages, rent, interest and taxes (in 2021).

**** Preliminary result. The result for the EU average in 2023 is based on the data available in the FADN from the member states (excluding DE, GR, CY)

Actual income in 2023

Comparison of actual income with necessary adequate income in 2023

Country	DE	LU	NL	Ø EU**
Revenue from milk price and CAP payments (in c/kg)	48.08	52.46	50.62	50.81
- Paid costs (in c/kg)	37.59	45.64	43.63	40.96
= Remaining income (in c/kg)	10.49	6.82	6.99	9.85
Remaining income converted in EUR/h***	18.23	19.80	17.64	17.34
Adequate income in EUR/h	20.00	33.50	24.60	22.18

* All results of 2023: trend calculations by BAL based on FADN 2021 or 2022 and Eurostat.
** Preliminary result. The result for the EU average in 2023 is based on the data available in the FADN 2022 from the member states (excluding DE, GR, CY)
*** Calculation estimate based on the income variable. The income variable is calculated based on twice the minimum wage in the respective countries or on applicable collective agreements.

Results 2023

- Milk prices and CAP payments are still not sufficient for cost-covering milk production.
- The huge increase in input costs, particularly for fertiliser, feed and energy, from 2020 onwards cancelled out the additional revenue from higher milk prices.
- After at least cost-covering farm-gate milk prices were paid once in 2022, the cost shortfall has worsened significantly again since 2023 as farm-gate milk prices have fallen again while input costs have remained very high.
- Improving the position of milk producers in the value chain is one of the most important steps to ensure that milk producers receive fair prices and are able to make the necessary adjustments and investments for climate and environmental protection and animal welfare.

Cost of milk production - EU

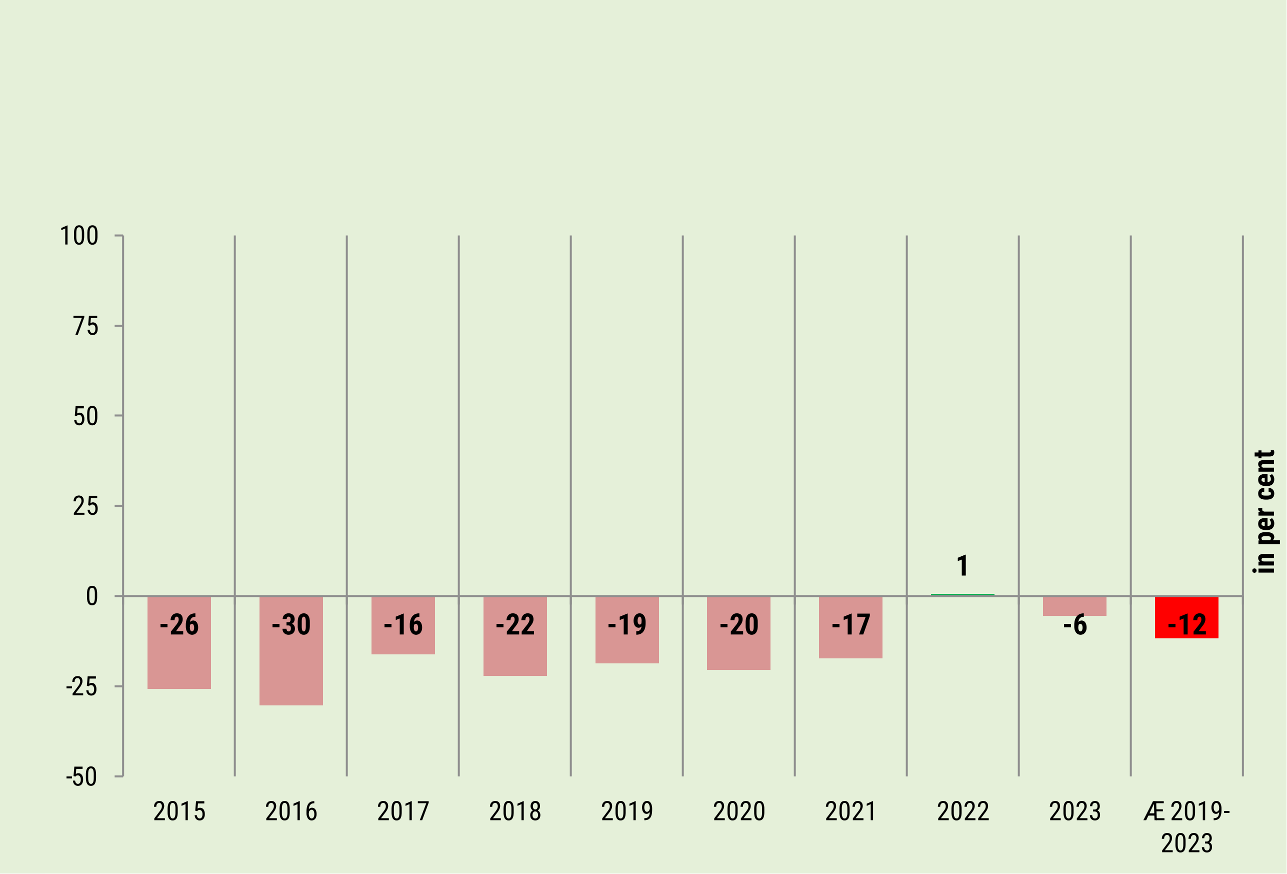
Composition of costs: 2019-2023 (in c/kg)

Year	Paid costs	+ Income variable	= Total milk production costs	- CAP payments	= Production costs (final result)	+ Net investments (Ø 2017-2021)	= Costs + Net investments
2023*	40.96	12.60	53.56	3.83	49.73	1.63	51.36
2022	41.37	12.35	53.72	3.83	49.89		51.52
2021	36.82	11.06	47.88	3.39	44.49		46.12
2020	34.92	11.41	46.33	3.38	42.95		44.58
2019	35.01	11.19	46.20	3.45	42.75		44.38
Ø (2019-2023)	37.82	11.72	49.54	3.58	45.96		

*Trend

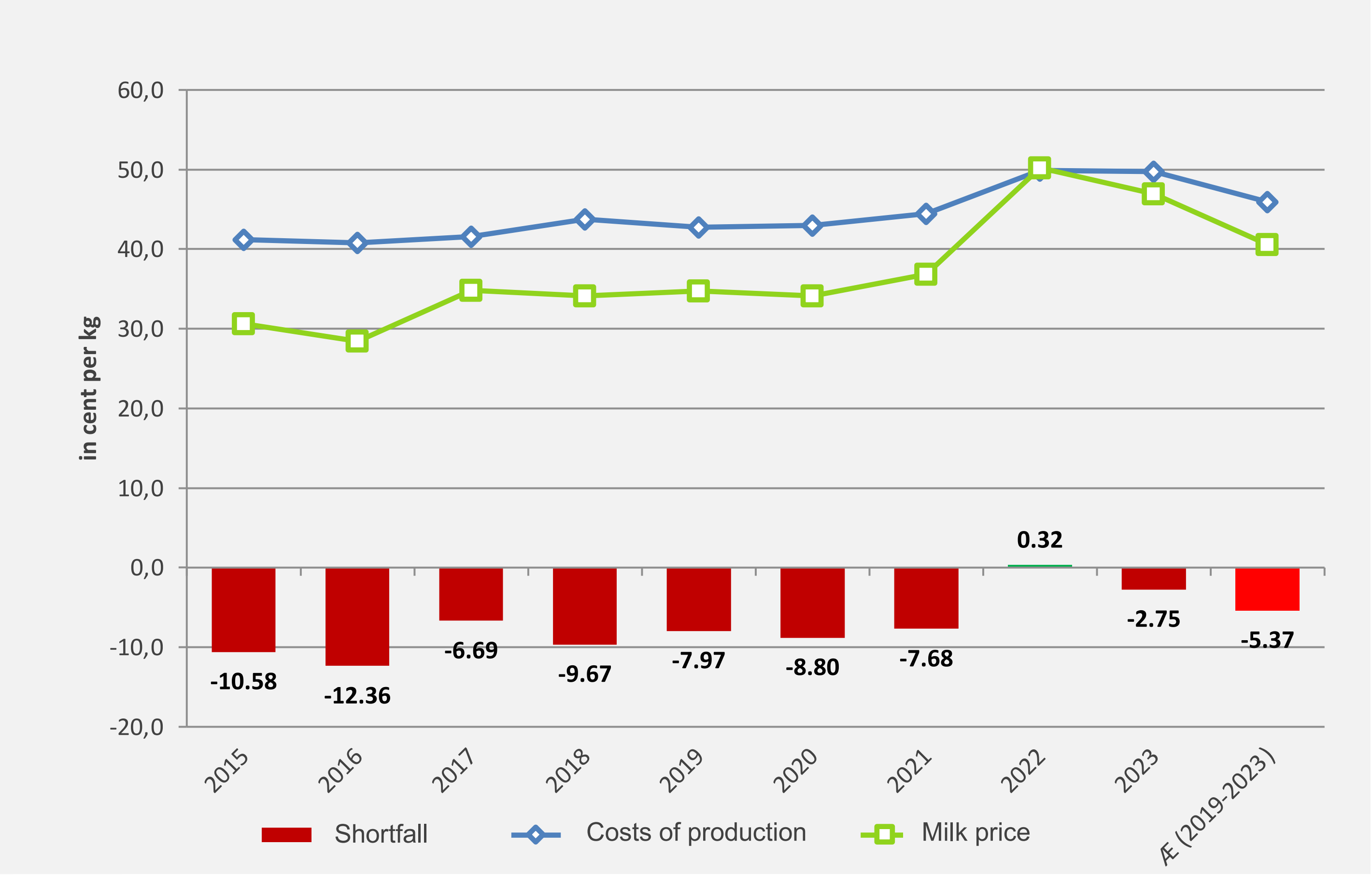
Cost of milk production - EU

Price/cost ratio (cost coverage/ shortfall in %)



Cost of milk production - EU

Price/cost ratio (cost coverage/ shortfall in c/kg)



Composition of milk production costs 2023*

	Cost item	in c/kg
	Bought-in feed	15.64
	Fodder production (seeds, fertilizers, plant protection products, other)	3.40
	Livestock costs (veterinary costs, insemination, etc.)	3.40
	Building & machinery upkeep	4.00
	Energy	3.64
	Contract work (contractors, machine rental, etc.)	3.19
	Wages paid (including costs of employees)	2.77
	Other farming overheads	2.39
	Rent paid	1.84
	Depreciation	6.44
	Interest and taxes	1.43
-	**Production value of beef**	**-7.18**
=	**Paid costs of milk production (for collected milk only)**	**40.96**
+	**Income variable (labour costs)**	**12.60**
=	**Total costs**	**53.56**
-	**CAP payments**	**-3.83**
=	**Milk production costs**	**49.73**
+	**Net investments (10-year average: 2010-2019)**	**1.63**
=	**Milk production costs including net investments**	**51.36**

*Trend

Development of investments 2013-2022 (in c/kg, based on FADN 2022)

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Ø 10 years
Gross investments	8.12	7.79	6.46	5.51	6.48	7.42	6.94	6.96	7.15	8.11	**7.09**
Net investments (without depreciation)	1.96	2.17	1.16	0.22	1.14	2.12	1.67	1.71	1.76	2.41	**1.63**

Development of milk production costs
2017 - 2023

Development of milk production costs 2017-2023 (in c/kg, based on FADN 2022)

Year	2017	2018	2019	2020	2021	2022	2023*	Ø 2019-2023
Production costs in c/kg	41.55	43.78	42.75	42.95	44.49	49.89*	49.73*	**45.96**
Milk price in c/kg	34.86	34.11	34.78	34.15	36.81	50.21	46.98	**40.59**
Cost shortfall/ coverage in c/kg	**-6.69**	**-9.67**	**-7.97**	**-8.80**	**-7.68**	**0.32**	**-2.75**	**-5.37**
Cost shortfall/ coverage in %	**-16%**	**-22%**	**-19%**	**-20%**	**-17%**	**+1%**	**-6%**	**-12%**
MMI (index, base year = 2015)	101	106	104	104	108	121	121	

*Trend

Conclusion for the EU

- In 2023, the costs of EU milk production were 49.73 cents per kilogramme.
- In the last five years - since 2019, costs have risen by 6.98 cents/kg or 16 per cent.
- Only 94% of costs were covered in 2023.
- The milk price and CAP payments were not sufficient to generate an adequate income, resulting in a cost shortfall of 2.75 cents/kg.
- Milk production generated an income of €17.34 per hour (gross gross). This means that producers lacked 21.83% for adequate labour costs (€22.18 gross gross).

Cost of milk production - Germany

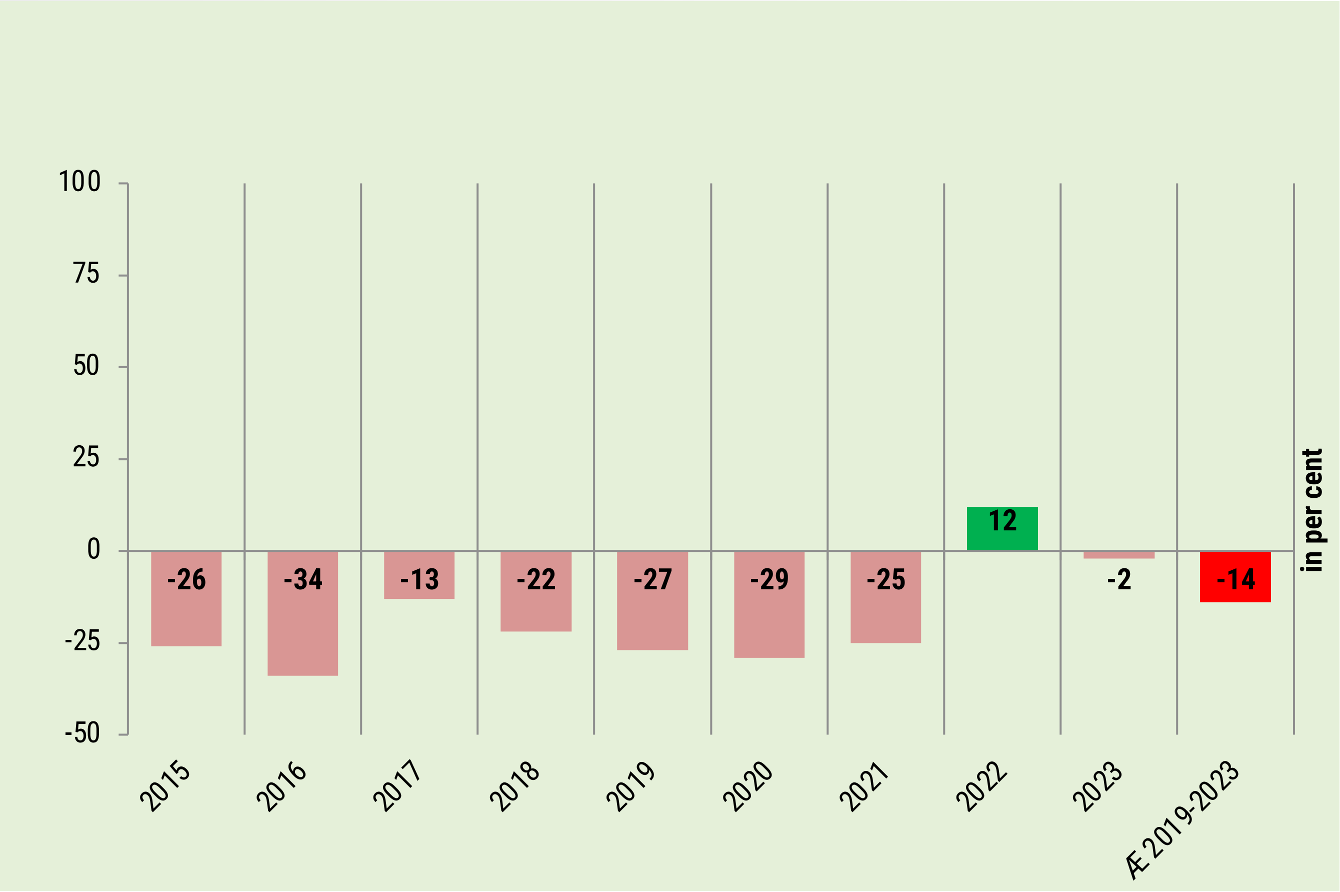
Composition of costs: 2019-2023 (in c/kg)

Year	Paid costs	+ Income variable	= Total milk production costs	- CAP payments	= Production costs (final result)	+ Net investments (Ø 2017-2021)	= Costs + Net investments
2023*	37.59	11.51	49.10	2.74	46.36	1.81	48.17
2022	38.86	11.51	50.37	2.74	47.63		49.44
2021	39.61	11.51	51.12	2.74	48.38		50.19
2020	36.84	11.90	48.74	2.76	45.98		47.79
2019	36.59	12.11	48.70	2.83	45.87		47.68
Ø 2019-2023	**37.90**	**11.71**	**49.61**	**2.76**	**46.84**		

*Trend

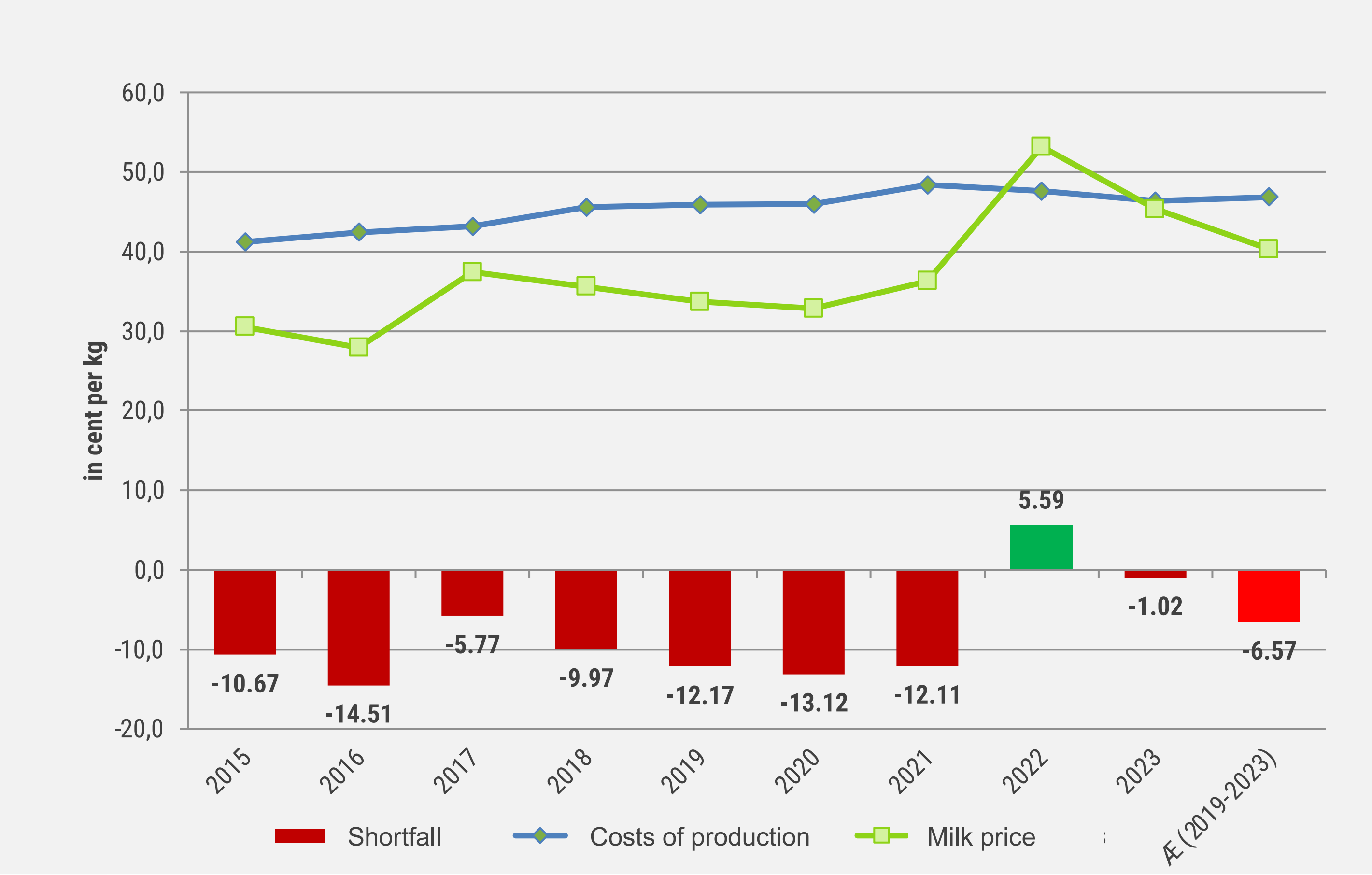
Cost of milk production - Germany

Price/cost ratio (cost coverage/ shortfall in %)



Cost of milk production - Germany

Price/cost ratio (cost coverage/ shortfall in c/kg)



Composition of milk production costs 2023*

	Cost item	in c/kg
	Bought-in feed	12.48
	Fodder production (seeds, fertilizers, plant protection products, other)	3.17
	Livestock costs (veterinary costs, insemination, etc.)	4.18
	Building & machinery upkeep	3.85
	Energy	4.17
	Contract work (contractors, machine rental, etc.)	3.06
	Wages paid (including costs of employees)	3.39
	Other farming overheads	2.10
	Rent paid	2.54
	Depreciation	6.45
	Interest and taxes	1.26
-	**Production value of beef**	**-9.06**
=	**Paid costs of milk production (for collected milk only)**	**37.59**
+	**Income variable (labour costs)**	**11.51**
=	**Total costs**	**49.10**
-	**CAP payments**	**-2.74**
=	**Milk production costs**	**46.36**
+	**Net investments (10-year average: 2010-2019)**	**1.81**
=	**Milk production costs including net investments**	**48.17**

*Trend

Development of investments 2012-2021 (in c/kg, based on FADN 2021)

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Ø 10 years
Gross investments	7.23	9.48	6.54	5.67	5.04	6.83	7.59	7.44	7.23	7.59	**7.06**
Net investments (without depreciation)	1.68	3.50	1.57	1.05	0.23	1.77	2.35	2.12	1.84	1.98	**1.81**

Development of milk production costs
2015 - 2023

Development of milk production costs 2015-2023 (in c/kg, based on FADN 2021)

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023*	Ø 2019-2023
Production costs in c/kg	41.20	42.44	43.17	45.57	45.87	45.96	48.38	47.59	46.36	46.83
Milk price in c/kg	30.53	27.93	37.40	35.60	33.70	32.84	36.27	53.18	45.34	40.27
Cost shortfall/ coverage in c/kg	-26%	-34%	-13%	-22%	-27%	-29%	-25%	12%	-2%	-14%
Cost shortfall/ coverage in %	-10.67	-14.51	-5.77	-9.97	-12.17	-13.12	-12.11	5.59	-1.02	-6.57
MMI (index, base year = 2020)	90	92	94	99	100	100	105	103	101	

*Trend

Conclusions for Germany

- In 2023, the costs of milk production were 46.36 cents per kilogramme in Germany.
- The average costs over the last 5 years are 46.83 c/kg.
- Only 98% of costs were covered in 2023.
- German milk producers generated an income of 10.49 c/kg from the milk price and CAP payments.
- This corresponds to 91% of the income variable for adequate labour costs or €18.23 per hour (gross gross).

Cost of milk production - Luxembourg

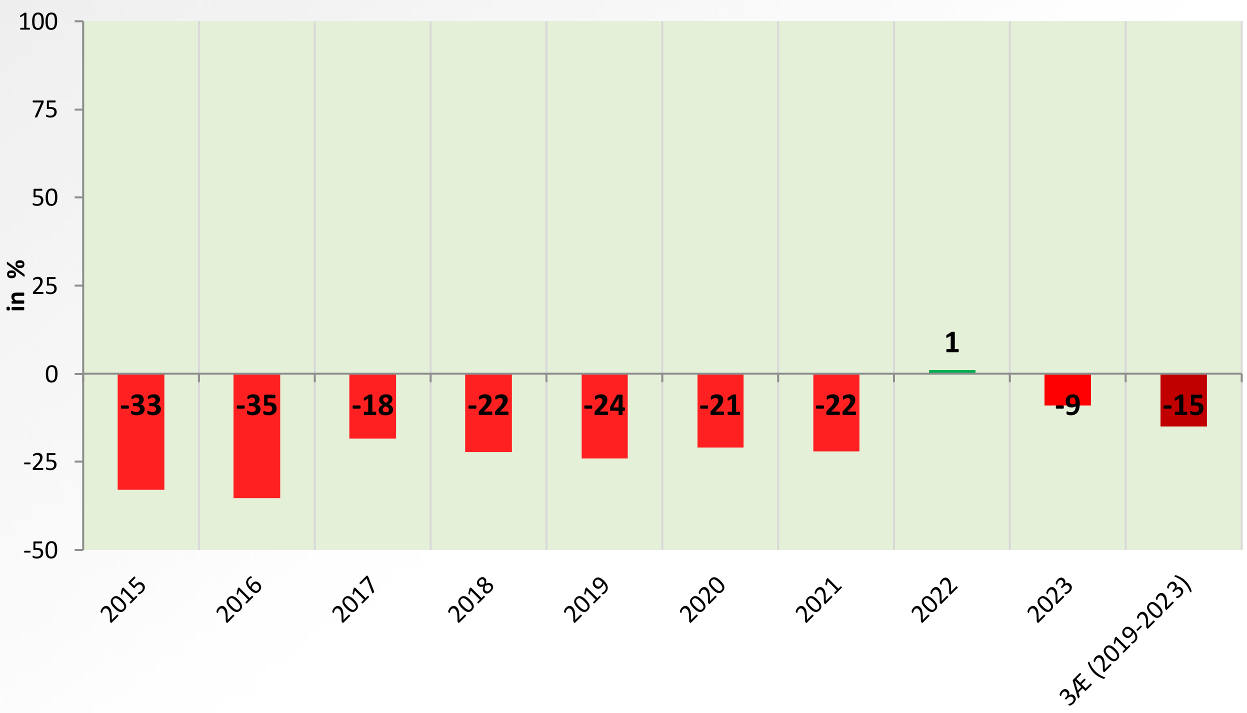
Composition of costs: 2019-2023 (in c/kg)

Year	Paid costs	+ Income variable	= Total milk production costs	- CAP payments	= Production costs (final result)	+ Net investments (Ø 2017-2021)	= Costs + Net investments
2023*	45.64	11.54	57.18	7.40	49.78		54.82
2022	47.44	10.31	57.75	7.40	50.35		55.39
2021	43.04	10.12	53.16	7.25	45.91	5.04	50.95
2020	39.19	10.65	49.84	6.89	42.95		47.99
2019	39.68	11.26	50.94	7.06	43.88		48.92
Ø (2019-2023)	**42.34**	**10.59**	**53.77**	**7.20**	**46.57**		

*Trend

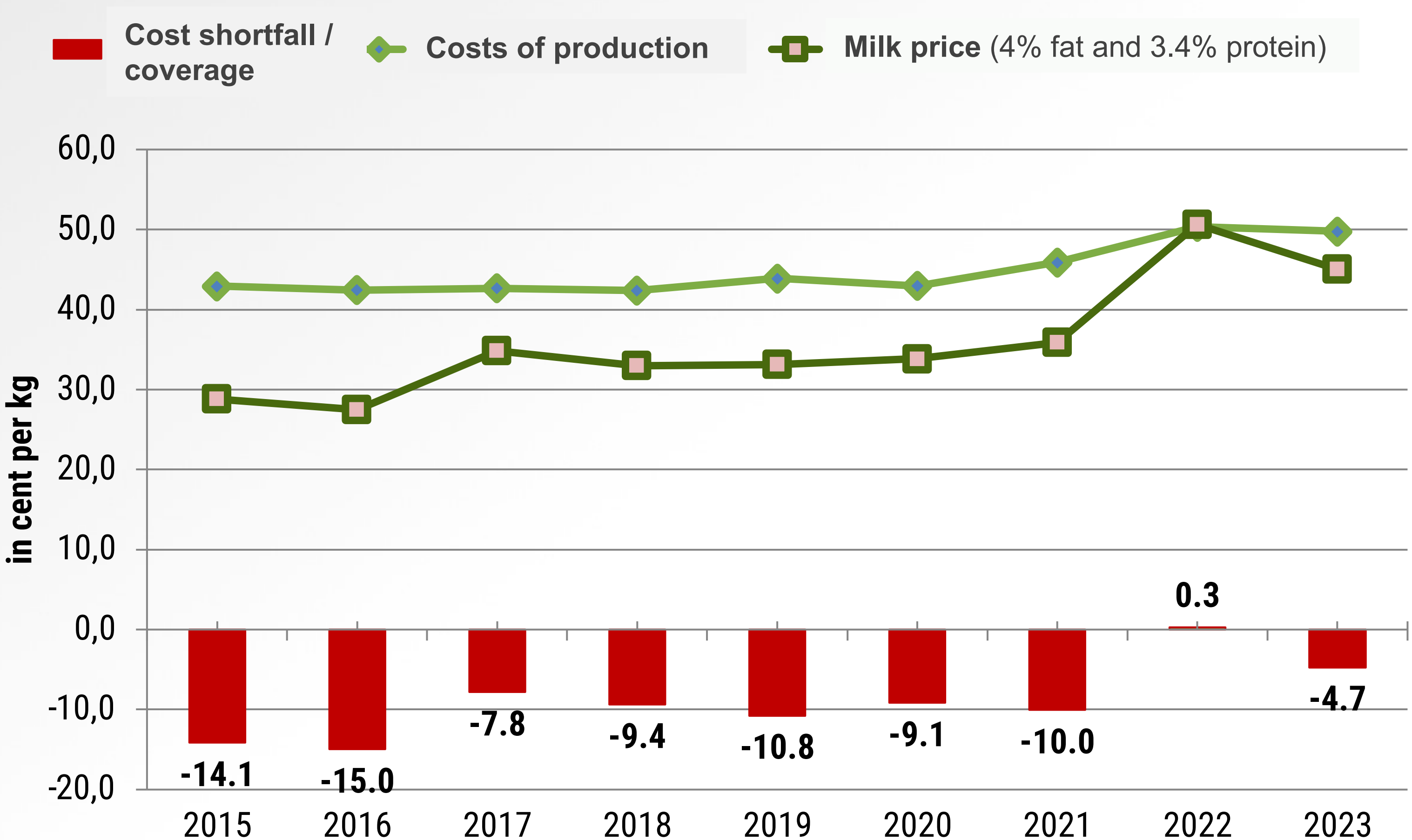
Cost of milk production - Luxembourg

Price/cost ratio (cost coverage/ shortfall in %)



Cost of milk production - Luxembourg

Price/cost ratio (cost coverage/ shortfall in c/kg)



Composition of milk production costs 2023*

	Cost item	in c/kg
	Bought-in feed	16.25
	Fodder production (seeds, fertilizers, plant protection products, other)	4.62
	Livestock costs (veterinary costs, insemination, etc.)	4.19
	Building & machinery upkeep	5.53
	Energy	2.88
	Contract work (contractors, machine rental, etc.)	2.73
	Wages paid (including costs of employees)	1.43
	Other farming overheads	2.05
	Rent paid	2.09
	Depreciation	11.97
	Interest and taxes	1.45
-	**Production value of beef**	**-9.55**
=	**Paid costs of milk production (for collected milk only)**	**45.64**
+	**Income variable (labour costs)**	**11.54**
=	**Total costs**	**57.18**
-	**CAP payments**	**-7.40**
=	**Milk production costs**	**49.78**
+	**Net investments (10-year average: 2010-2019)**	**5.04**
=	**Milk production costs including net investments**	**54.82**

*Trend

Development of investments 2013-2022 (in c/kg, based on FADN 2022)

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Ø 10 years
Gross investments	21.86	27.29	12.26	10.04	11.54	11.37	13.08	14.27	12.74	17.31	**15.17**
Net investments (without depreciation)	10.71	16.08	2.27	0.33	1.34	2.02	3.44	4.82	2.58	6.79	**5.04**

Development of milk production costs
2015 - 2023

Development of milk production costs 2015-2023 (in c/kg, based on FADN 2021)

Year	2015	2016	2017	2018	2019	2020	2021	2022*	2023*	Ø (2019-2023)
Production costs in c/kg	42.94	42.43	42.68	42.38	43.88	42.95	45.91	50.35	49.78	**46.57**
Milk price in c/kg	28.82	27.48	34.85	33	33.13	33.83	35.89	50.63	45.06	**39.71**
Cost shortfall/ coverage in c/kg	**-14.12**	**-14.95**	**-7.83**	**-9.38**	**-10.75**	**-9.12**	**-10.02**	**0.28**	**-4.72**	**-6.86**
Cost shortfall/ coverage in %	**-33%**	**-35%**	**-18%**	**-22%**	**-24%**	**-21%**	**-22%**	**1%**	**-9%**	**-15%**
MMI (index, base year = 2015)	100	99	99	99	102	100	107	117	116	

*Trend

Conclusions for Luxembourg

- In 2023, the costs of milk production in Luxembourg were 49.78 cents per kilogramme.
- Compared to 2019, costs have risen by 5.90 cents/kg or 13%.
- Only 91% of costs were covered.
- The average Luxembourg dairy farm generated an income of 6.82 cents/kg from the milk price and CAP payments.
- This corresponds to 59% of the income variable for adequate labour costs or € 19.80 per hour (gross gross).

Cost of milk production - Netherlands

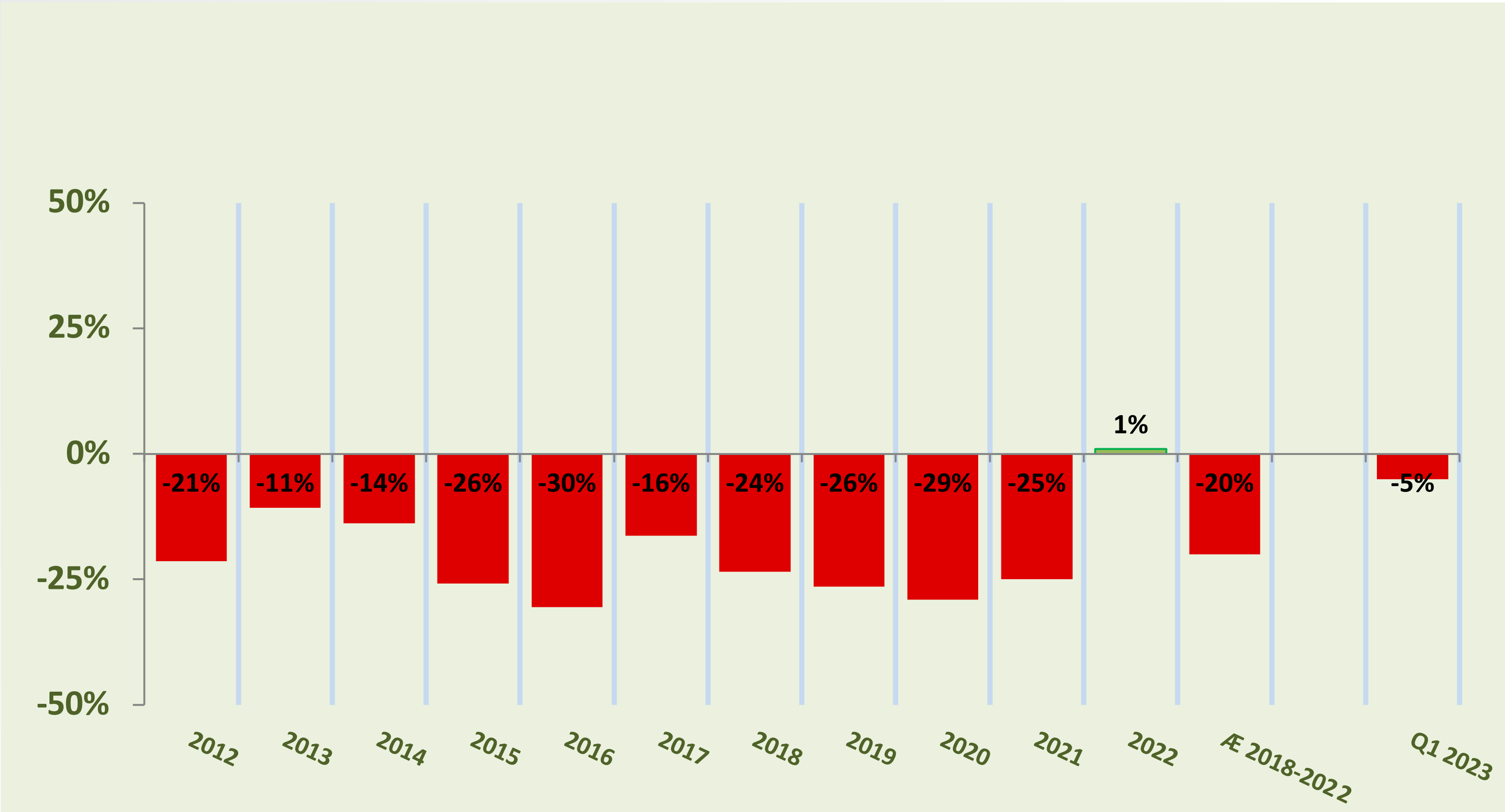
Composition of costs: 2018-2023 (in c/kg)

Year	Paid costs	+ Income variable	= Total milk production costs	- CAP payments	= Production costs (final result)	+ Net investments (Ø 2017-2021)	= Costs + Net investments
Q1-2023*	43.63	9.75	**53.38**	1.76	**51.62**	**4.12**	**55.74**
2022*	43.52	9.75	**53.27**	1.76	**51.51**		**55.63**
2021	38.44	9.75	**48.19**	1.76	**46.43**		**50.55**
2020	36.55	9.68	**46.23**	1.63	**44.60**		**48.72**
2019	37.33	9.66	**46.99**	1.73	**45.26**		**49.38**
2018	36.62	9.12	**45.74**	1.59	**44.15**		**48.27**
Ø (2018-2022)	**38.49**	**9.59**	**48.08**	**1.69**	**46.39**		

*Trend

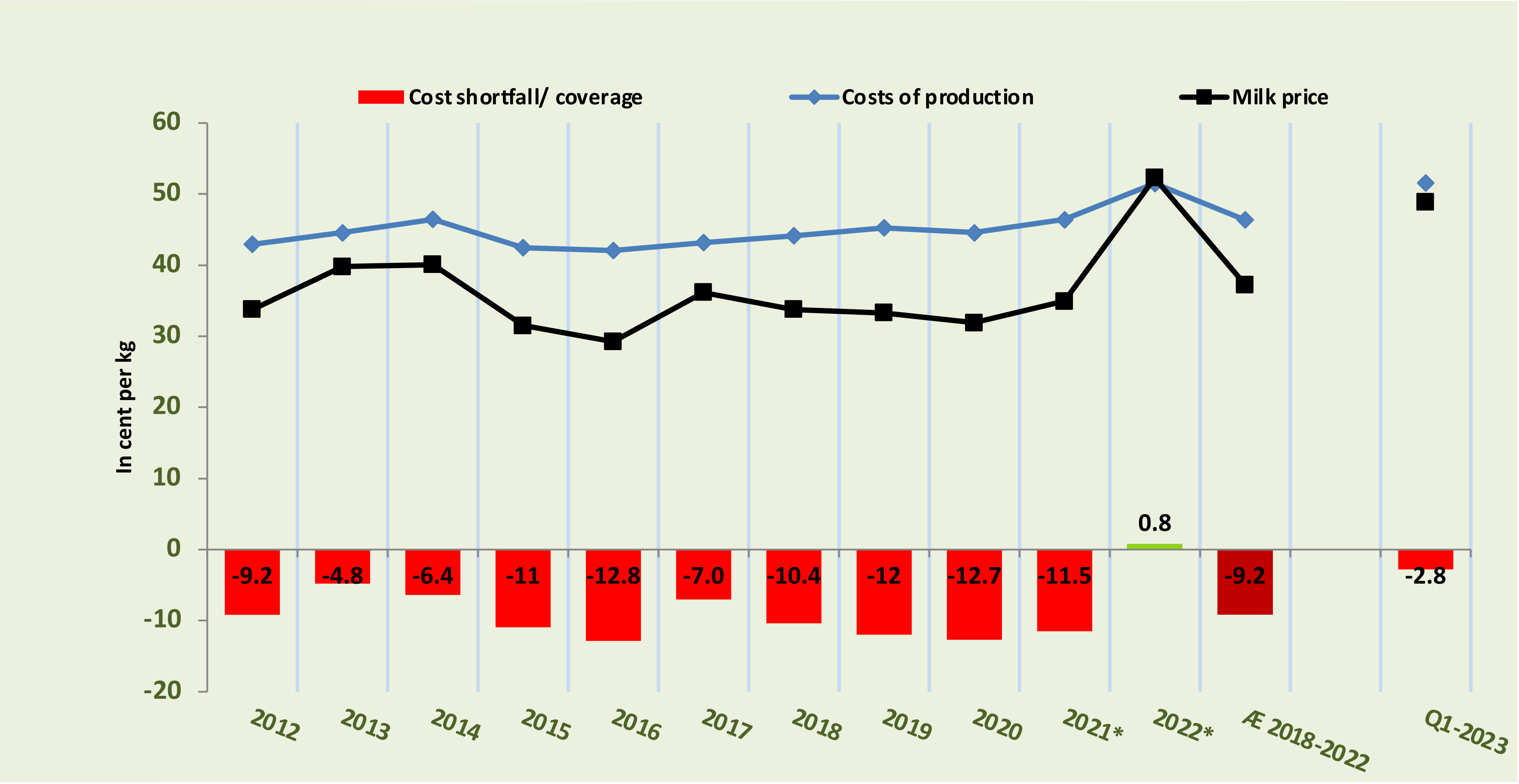
Cost of milk production - Netherlands

Price/cost ratio (cost coverage/ shortfall in %)



Cost of milk production - Netherlands

Price/cost ratio (cost coverage/ shortfall in c/kg)



Composition of milk production costs 2023*

	Cost item	in c/kg
	Bought-in feed	16.39
	Fodder production (seeds, fertilizers, plant protection products, other)	1.60
	Livestock costs (veterinary costs, insemination, etc.)	4.67
	Building & machinery upkeep	3.72
	Energy	4.08
	Contract work (contractors, machine rental, etc.)	3.03
	Wages paid (including costs of employees)	1.13
	Other farming overheads	2.44
	Rent paid	2.16
	Depreciation	5.64
	Interest and taxes	3.09
-	**Production value of beef**	-4.32
=	**Paid costs of milk production (for collected milk only)**	43.63
+	**Income variable (labour costs)**	9.75
=	**Total costs**	53.38
-	**CAP payments**	-1.76
=	**Milk production costs**	51.62
+	**Net investments (10-year average: 2010-2019)**	4.12
=	**Milk production costs including net investments**	55.74

*Trend

Development of investments 2012-2021 (in c/kg, based on FADN 2021)

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Ø 10 years
Gross investments	12.85	10.95	13.82	12.49	6.04	6.38	9.01	8.53	8.79	5.36	**9.42**
Net investments (without depreciation)	7.21	5.26	8.41	7.31	1.04	1.39	3.82	3.15	3.53	0.13	**4.12**

Development of milk production costs
2014 - 2022

Development of milk production costs 2014-2022 (in c/kg, based on FADN 2021)

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022 *	Ø 2018 - 2022	Q1-2023 *
Production costs in c/kg	46.47	42.46	42.07	43.20	44.15	45.26	44.60	46.43	51.51	**46.39**	51.62
Milk price in c/kg	40.07	31.49	29.25	36.18	33.77	33.29	31.88	34.93	52.27	**37.23**	48.86
Cost shortfall/ coverage in c/kg	**-6.40**	**-10.97**	**-12.82**	**-7.02**	**-10.38**	**-11.97**	**-12.72**	**-11.50**	**0.76**	**-9.16**	**-2.76**
Cost shortfall/ coverage in %	**-14%**	**-26%**	**-30%**	**-16%**	**-24%**	**-26%**	**-29%**	**-25%**	**1%**	**-20%**	**-5%**
MMI (index, base year = 2015)	109	**100**	99	102	104	107	105	109	121		122

*Trend

Conclusions for the Netherlands

- In the first quarter of 2023, the costs of milk production in the Netherlands were 51.62 cents per kilogramme.
- Compared to 2019, costs have risen by 6.36 cents/kg or 14%.
- Only 95% of the costs were covered.
- Only an income of 6.99 cents/kg was generated from the milk price and CAP payments.
- This corresponds to 72% of the income variable for adequate labour costs or €17.64 per hour (gross gross).

What is the cost of producing milk?

2023