Milk Price by Fat and SNF (Two-Axis Pricing)

Payment for milk on the two-axis system: kilograms of fat and of solids-not-fat from volume, density and test, priced per kilogram of each, with the price per litre.

Method: Two-axis milk pricing arithmetic

Input parameters

Unit system: SI

Parameter	Value	Unit
Milk volume	100.00	L
Specific gravity	1.0300	
Fat	4.5000	%
Solids-not-fat	8.5000	%
Rate per kg fat	300.00	
Rate per kg SNF	200.00	

Calculated results

Parameter	Value	Unit
Milk mass	103.00	kg
Fat	4.6350	kg
SNF	8.7550	kg
Amount payable	3,141.5	
Price per litre	31.415	

Notes for this case

• Two-axis pricing pays separately for the fat and the solids-not-fat delivered, so richer milk earns more and added water earns nothing. Litres are converted to kilograms with the specific gravity (about 1.028–1.034 for cow milk); the fat and SNF percentages then give kilograms of each. The fat and SNF rates are set by the dairy, often as a ratio such as 60:40 of a standard milk's price.

Formula and method

$$m = \rho V, \quad C = r_f m F + r_s m SNF$$

Variables

V	Milk volume	m³
SG	Specific gravity	-
F	Fat	-
SNF	Solids-not-fat	-
r_f	Rate per kg fat	-
r_s	Rate per kg SNF	-
m	Milk mass	kg
m_f	Fat	kg
m_s	SNF	kg
C	Amount payable	-
c_L	Price per litre	-

Method and standards

Two-axis price.

Assumptions and limits

- Specific gravity as entered.

References

Two-axis milk pricing arithmetic

Report details

Report reference	FCC-5HTJ-H8B4 (the same inputs always give the same reference)
Generated	23 November 2026, 18:01 UTC
Calculator	Milk Price by Fat and SNF (Two-Axis Pricing)
Method last reviewed	17 November 2026
Software release	FireCAD Calc, release of 22 November 2026
Release checks	3 reference cases of this calculator, computed independently, are checked on every release

Results are for engineering estimation. Verify critical designs against the referenced standards and your own data.

This calculator online

https://calc.firecad.com/chemical/food-dairy/milk-price-two-axis

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.