

CANADIAN DAIRY COMMISSION

COST OF PRODUCTION
FINAL RESULTS BASED ON 2013 SURVEY DATA
INDEXED TO THE 3RD QUARTER OF 2014

November 2014

Policy and Economics

2013 COP Highlights

Changes to the COP calculations

- In 2013, in an effort to harmonize with North American standards, Statistics Canada made some changes to the indices used in the COP calculation. In order to make numbers comparable, the CDC recalculated the 2012 COP indexed to the 3rd quarter of 2013 using the new indices.
- The 2013 COP has been calculated using the new template which includes the cost of raising replacement heifers in the cash costs.¹

Results

- The cost of production for one standard hectolitre of milk in 2013 was \$77.29, a slight decrease of 0.6% compared to the 2012 COP which was \$77.79/hl. The table below shows that the decrease in the total COP in 2013 is mainly due to a decrease in the capital costs and in the labour costs.

	2012 COP	2013 COP	% change
Cash Costs	43.59	43.72	0.3%
Feed ²	16.34	16.62	1.7%
Capital Costs	14.39	13.97	-2.9%
Labour Costs	19.97	19.69	-1.4%
Total COP	77.79	77.29	-0.6%

- Once indexed to the 3rd quarter of 2014, the estimated COP is \$76.13 per hectolitre. This represents a decrease of 2.57% over the 2012 COP indexed to 3rd quarter of 2013. The main factors that explain this decrease are lower feed, transportation and fuel price indices. For more details, please refer to the National Cost of Production Calculation table at the end of the document.

Methodology

Sample

- The sample is selected to be representative of the dairy farm population at the Canadian level only.
- Producers in the sample are randomly selected. For the year 2013, a total of 216 farms were sampled.

Calculation and efficiency measures

- Costs cover the milking herd plus replacement animals.
- Any farm with a COP that is outside of two standard deviations is considered an outlier, and is therefore excluded from the final sample. For the year 2013,

¹ Recommendation from the COP Technical Committee (June 2013)

² Feed represents roughly 20% of the total COP figure. Its variations have a substantial impact on the COP figure.

9 farms were excluded. The data and information collected from the remaining 207 farms were used to calculate the national COP.

- The national COP calculation is based on production-weighted COP per province, weighted nationally based on shares of total production.

Indexation

The following components are used to index the 2013 COP to the 3rd quarter of 2014:

- a) Cash costs are indexed to the 3rd quarter of 2014 using Statistics Canada indices (see Appendix 1);
- b) The interest component is indexed using the Bank of Canada five-year mortgage rate (see Appendix 1);
- c) Producer labour and remaining components of the capital costs are not indexed.

Standardization

- The 2013 COP data are provided to the CDC based on actual figures. Individual farm data are not available in standard hectolitres. Standardization is only performed at the end of the process using the most recent component standards.
- The following standards were used in the 2013 COP calculations:

	Butterfat	SNF
Allocation of costs ⁽¹⁾	36%	64%
Milk standard composition	3.6 kg/hl	8.9177 kg/hl
Sample milk composition ⁽²⁾	4.02 kg/hl	9.06 kg/hl

⁽¹⁾ The allocation between butterfat and SNF is determined by the share of butter and SMP in total market returns.

⁽²⁾ Weighted average composition of all eligible farms.

Appendices

Appendix 1 contains the different indices used to index cash costs and interest components to the 3rd quarter of 2014.

Appendix 2 shows the number of farms in the final sample and the total production share for each province.

National Cost of Production Calculation⁽³⁾

2013 Results

COST COMPONENTS:	2013 COP	2013 COP Indexed to 2014 Q3	2012 COP Indexed to Q3 2013	% change 2014 Q3/Q3 2013
CASH COSTS	\$/hl	\$/hl	\$/hl⁽²⁾	
Purchased feed	16.62	15.28	16.30	-6.26%
Artificial insemination*	3.07	3.07	3.11	-1.31%
Transportation, fees & promotion	5.15	5.02	5.17	-2.81%
Machinery, equipment repairs	2.44	2.53	2.67	-5.38%
Fuel & oil	2.05	2.09	2.20	-5.17%
Custom work	2.09	2.14	2.45	-12.38%
Fertilizer & herbicides	1.89	1.92	1.87	2.68%
Seed & plants*	1.14	1.14	1.18	-3.77%
Other (Misc): Professional fees	0.75	0.77	0.79	-2.08%
Other (Misc): Animal costs	1.98	2.03	1.87	8.63%
Other (Misc): Crops costs	0.79	0.81	0.67	22.24%
Land & building repairs	2.38	2.41	2.55	-5.55%
Property taxes & insurance	2.00	2.04	2.21	-7.58%
Hydro & telephone	1.60	1.69	1.55	9.42%
Hired labour	2.91	3.01	3.06	-1.54%
Purchase/sale of animals*	-3.16	-3.16	-3.10	2.06%
Dairy Inventory Value adjustment*	0.00	0.00	-0.62	-99.75%
Total Cash Costs	43.72	42.81	43.93	-2.56%
CAPITAL COSTS				
Interest paid	2.91	2.66	3.29	-19.15%
Building depreciation*	2.36	2.36	2.31	1.87%
Machinery & equipment depr*	4.52	4.52	4.38	3.15%
Return on equity*	4.18	4.18	4.41	-5.11%
Total Capital Costs	13.97	13.72	14.39	-4.69%
PRODUCER LABOUR				
Direct labour*	15.20	15.20	15.35	-0.97%
Return to management* ⁽¹⁾	4.49	4.49	4.62	-2.79%
Total Producer Labour	19.69	19.69	19.97	-1.39%
GOV'T REBATES & OTHERS*	-0.08	-0.08	-0.15	47.75%
RESULT OF COP FORMULA	77.29	76.13	78.14	-2.57%

* Not indexed

(1) The rate of \$33.63 per hour was established in 2009. It represents about 80% of a mid-range AG3 salary in 2014.

(2) The displayed COP has been re-calculated with the new indices from Statistics Canada. The COP used as a reference for the February 01, 2014 CDC support price adjustment was \$78/hl (old template and indices).

(3) Calculations are done using the new standardization method

Note: Starting in 2012, all cash costs incurred in raising replacement herd are included in the Cash costs section.

Appendix 1

Description of indices used to update cash costs and interest component

COST COMPONENTS	2013	2014 Q3	% change 2014 Q3 / 2013
Dairy Ration	121.1	111.4	-8.1%
Transportation,fees & promotion	2.71	2.6	-2.4%
Mach,Equip Repairs	104.4	108.2	3.7%
Fuel &Oil	134.7	136.9	1.7%
Custom Work	122.8	125.7	2.4%
Fertilizer & Herbicides	120.2	121.7	1.2%
Other (Misc)	108.6	111.5	2.7%
Land & Building Repairs	127.1	128.6	1.1%
Property Taxes & Insurance	141.7	145.1	2.4%
Hydro & Phone	129.1	136.2	5.5%
Hired Labour	33.0	34.2	3.5%
Interest	5.2	4.8	-8.6%

Dairy Ration	v79309229	Table 329-0075: IPPI, by North American Product Classification System (NAPCS); Canada; Complete cattle feed
Transportation		P5 Transportation Pooling Figures/Chiffres du pooling P5 pour le transport
Mach,Equip Repairs	v79309850	Table 329-0075: IPPI, by North American Product Classification System (NAPCS); Canada; Agricultural, lawn and garden machinery and equipment
Fuel &Oil	v79309138	Table 329-0075: IPPI, by North American Product Classification System (NAPCS); Canada; Energy and petroleum products
Custom Work	v41690973	Table 326-0020 Consumer price index, 2005 basket; Canada; All-items (2002=100)
Fertilizer & Herbicides	v79309411	Table 329-0075: IPPI, by North American Product Classification System (NAPCS); Canada; Fertilizers, pesticides and other chemical products
Other (Misc)	v79309137	Table 329-0075: IPPI, by North American Product Classification System (NAPCS); Canada; Total, Industrial product price index (IPPI)
Land & Building	v41691060	Table 326-0020 Consumer price index (CPI), 2005 basket; Canada; Homeowners' maintenance and repairs (2002=100 unless otherwise noted)
Property Taxes & Insurance	v41691058	Table 326-0020: Consumer price index (CPI), 2005 basket, Property taxes (including special charges) , monthly (2002=100 unless otherwise noted)
Electricity	v41691063	Table 326-0020: Consumer price index (CPI), 2005 basket, Electricity, monthly (2002=100 unless otherwise noted). The indice accounts for 80% in the indexation of the Hydro and Phone.
Telephone	v41691070	Table 326-0020: Consumer price index (CPI), 2005 basket,Telephone services, monthly (2002=100 unless otherwise noted). The indice accounts for 20% in the indexation of the Hydro and Phone.
Hired Labour	v1602417	Table 281-0035: Average hourly earnings for salaried employees (paid a fixed salary) (SEPH); Canada; Industrial aggregate excluding unclassified (Dollars)
Interest		The interest component is indexed using the Bank of Canada 5-year mortgage rate.

Appendix 2

Farms number and total production share

	# of farms ⁽¹⁾	P10 production share ⁽²⁾ (litres) 2013 production year
Prince Edward Island	4	1.31%
New Brunswick	7	1.75%
Nova Scotia	5	2.24%
Quebec	95	37.81%
Ontario	54	32.78%
Manitoba	7	4.08%
Saskatchewan	3	2.98%
Alberta	16	8.41%
British Columbia	16	8.64%
Canada	207	100.00%

(1) Excluding outliers

(2) P10 production excluding food bank, contaminated milk and milk sold at fairs