

2004 COST OF PRODUCTION SURVEY SUMMARY



PREPARED FOR:
CANADIAN EGG MARKETING AGENCY
OFFICE CANADIEN DE COMMERCIALISATION DES OEUFS
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PREAMBLE

The Canadian Egg Marketing Agency (CEMA) engaged Meyers Norris Penny_{LLP} (MNP) in April 2005 to conduct the 2004 Cost of Production Survey (2004 Survey). The MNP team worked with the CEMA Cost of Production Committee, CEMA staff, provincial board managers and egg producers to define the requirements and constraints, collect the data required, verify and analyze the data, and produce the final report. This is a summary of the report.

PURPOSE OF THE SURVEY

Since 1975, The Canadian Egg Marketing Agency (CEMA) has managed Canada's central pricing system for eggs, which is based on a Cost of Production formula (COPf) designed to allow the average producer to recover costs, plus a reasonable return, over time.

Conducted periodically, the purpose of the COP Survey is to determine the current cost factors of egg production for inclusion in the COPf. The largest component of the work to determine these factors is a survey of a sample of egg producers across Canada to collect cost and performance data for the most recent complete year of production.

The COP components estimated by the survey are:

- Pullet costs;
- Feed costs;
- Labour costs;
- Depreciation costs;
- Environmental regulatory costs;
- Overhead costs; and
- Interest costs and producer returns.

The productivity factors¹ calculated from the COP components are:

- National rate of lay;
- Feed conversion ratio;
- Labour hours per dozen;

¹ The rate of lay is defined as the total marketable egg production (dozens of eggs) per bird placed per year.

The feed conversion ratio is the number of kilograms of feed required to produce one dozen eggs.

The labour hours per dozen is the total labour hours required to produce one dozen eggs.

CONFIDENTIALITY

The confidentiality of the information that was collected was of significant importance. MNP entered into a confidentiality agreement with participating producers, declaring that MNP would treat the participants' information collected in the survey as strictly confidential.

OVERALL APPROACH

The 2004 Survey was conducted in three phases:

- A. Planning and preparation
- B. Field interviews
- C. Analysis and reporting

A. Planning and preparation

Prior to conducting the survey, meetings were held with COP Committee members, CEMA staff, the MNP team leader, and the statistician contracted to MNP to develop the survey objectives, methodology, population, stratification and sample size, questionnaire design, and deliverables.

The 2004 Survey questionnaire, the interviewer manual, and the programs to capture and consolidate the survey data (the "Consolidator") were developed.

The producers to be surveyed (a sample of 104 producers) were selected by the statistician. Producers' agreement to participate was obtained by the provincial board managers.

An intensive interviewer training course for the MNP team was conducted jointly by the MNP project lead and CEMA staff.

B. Field interviews

The interviewers scheduled and conducted in-depth producer interviews. The time per interview varied from three to nine hours (excluding preparation time), depending on the size and complexity of the operation. Documentation, invoices, and receipts were provided by producers to substantiate recorded costs. The interviewers submitted the results to the MNP project lead for validation through manual and electronic control checks.

C. Analysis and reporting

MNP reviewed the completed survey questionnaires and accompanying working papers for completeness, reasonableness of the data and adequacy of log entries. Queries were referred back to interviewers for resolution.

Once survey data were verified, they were uploaded into the survey database for analysis and sent to the statistician for estimation². The final analysis produced:

- regional and national COP values with levels of deviation³ achieved;
- a national COP value by cost component and the level of deviation of each component; and
- national performance measures: rate of lay, feed conversion ratio, and labour hours per dozen eggs.

SURVEY SAMPLE DESIGN

The 2004 Survey was intended to provide accurate estimates of the average cost of producing one dozen eggs in each region and nationally.

The 2004 Survey sample was drawn from a population of egg producers defined to be all egg producers holding quota of at least 5,000 layers.

The provinces and the Northwest Territories were grouped into five regions:

- Atlantic: NL, NS, PE, NB
- Québec: QC
- Ontario: ON
- Prairies: MB, SK, AB, NT
- British Columbia: BC

The survey sample consisted of 104 producers.

The national estimates and the percentage deviation were calculated. A deviation of 2.85% was achieved at the national level.

²The basic estimation method of *combined ratio estimation* has been employed in several survey cycles, and is described in detail in Cochran, W.G., *Sampling Techniques*, 3rd edition, Wiley 1977, chapter 6; and Lohr, Sharon L., *Sampling: Design and Analysis*, Duxbury Press 1999, chapters 3 and 7.

³ For the purposes of the 2004 COP Survey, “deviation” refers to the margin either side of an estimate such that if the survey and analysis were repeated 20 times, a value would be calculated within the percentage deviation from the average, 19 times out of 20.

PRODUCTIVITY GAINS

Gains were made in all three of the industry's productivity factors:

Productivity Factor	2004	1999	Percent Gain
Rate of Lay	24.99	24.41	2.4%
Feed Conversion Ratio	1.4999	1.5759	4.8%
Labour Hours per Dozen	0.00760	0.00923	17.7%

The rate of lay has improved by 2.4% meaning that each layer now produces, on average, 24.99 dozen eggs in one year compared with 24.41 dozen in 1999.

The feed conversion ratio is the number of kilograms of feed required, on average, to produce one dozen eggs. This ratio has improved by 4.8%; in 1999 it took 1.5759 kg of feed to produce one dozen eggs and in 2004, it only took 1.4999 kg.

The amount of time it takes in labour to produce one dozen eggs has improved by 17.7% between 1999 and 2004. In 1999, it took 0.00923 hours, on average, to produce one dozen eggs. In 2004, the number of hours of labour it took to produce one dozen eggs dropped to 0.0076 hours.

COP UPDATING METHODOLOGY

The COP components are updated on a monthly or quarterly basis for each province and the Northwest Territories. A number of methods are used for updating including telephone survey, third-party independent data, and Statistics Canada indices. There are approximately 12 COP updates per year and they can be found on our website.