



Canadian Association of Professional Apiculturists
Preliminary report on Honey Bee Wintering Losses in Canada (2024)

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This report presents the **preliminary data** collected by the provinces of Canada regarding honey bee losses for the winter of 2023-2024. The final data will be published in the annual Statement on honey bee wintering losses in Canada. There may be discrepancies between results in the preliminary and final reports.

Methodology

Beekeepers that owned and operated a specified minimum number of colonies (Table 1) were included in the survey. The survey reported data from full-sized producing honey bee colonies that were wintered in Canada, but does not include nucleus (partial) colonies. Thus, the information gathered provides a valid assessment of honey bee losses and commercial management practices.

The common definitions of a honey bee colony and a commercially viable honey bee colony in spring that were used in the survey were:

- Honey Bee Colony: A full-sized honey bee colony either in a single or double brood chamber, not including nucleus colonies (splits).
- Viable Honey Bee Colony in Spring: A honey bee colony that survived winter, with a minimum of 4 frames with 75% of the comb area covered with bees on both sides as of May 1st (British Columbia), May 15th (New Brunswick, Nova Scotia, Ontario, Prince-Edward-Island and Quebec) or May 21st (Alberta, Manitoba, Saskatchewan and Newfoundland and Labrador).

The questionnaire of colony loss and management was provided to producers using various methods of delivery including mail, email, online and a telephone survey; the method of delivery varied by jurisdiction (Table 1). In each province, data were collected and analyzed by the Provincial Apiarist. All reported provincial results were then analyzed and summarized at the national level. The national percent winter loss was calculated as follows:

$$\text{Percentage Winter Loss} = \left(\frac{\text{Sum of the estimated total colony losses per province in spring 2024}}{\text{Sum of total colonies in operation in each province for 2023}} \right) \times 100$$

Preliminary results

The survey delivery methods, size of beekeeping operations and response rate of beekeepers for each province are presented in Table 1. The total number of colonies operated in a province reported by this survey may vary slightly from Statistics Canada official numbers, due to the data collection periods for the provincial database and the Statistics Canada report being done at different times of year.

Table 1: Survey parameters and honey bee colony mortality (2023-2024) by province

Province	Total number of colonies operated in 2023	Estimated number of colonies lost based on the estimated provincial winter loss	Type of data collection	Number of beekeepers targeted by survey	Number of respondents (% of participation)	Size of beekeeping operations targeted by survey (# colonies)	Number of respondents' colonies that were wintered in fall 2023	Number of respondents' colonies that were alive and viable in spring 2024	Percentage of surveyed colonies as a proportion of the total number of colonies in the province	Provincial Winter Loss including Non-viable Colonies
Newfoundland and Labrador	678	66	email, telephone, online	18	13 (72%)	20	622	561	92%	9.8%
Prince Edward Island	5 500	3 592	email	25	15 (60%)	20	3 800	1 318	69%	65.3%
Nova Scotia	25 859	8 162	email	46	25 (54%)	50	19 476	13 329	75%	31.6%
New Brunswick	12 836	3 730	email, postal, telephone	31	22 (71%)	50	10 082	7 152	79%	29.1%
Quebec	70 022	28 185	online, email	138	58 (42%)	50	37 194	22 223	53%	40.3%
Ontario	101 161	51 108	online, telephone	206	105 (51%)	50	50 790	25 130	50%	50.5%
Manitoba	114 015	44 911	online, email	208	70 (34%)	50	50 853	30 822	45%	39.4%
Saskatchewan	99 000	17 920	online	200	89 (45%)	50	39 439	32 300	40%	18.1%
Alberta	308 200	103 770	online, telephone	165	65 (39%)	100	160 195	106 258	52%	33.7%
British Columbia*	Data unavailable at this time									
CANADA**	737 271	261 444	-	1 037	462 (45%)	-	372 451	239 093	51%	35.8%

* 433 beekeepers were targeted by the survey, to this date participation rate is insufficient. Current estimate of mortality is 26%.

** excluding British Columbia