

Ontario Beekeepers' Association

2025 Winter Loss Survey Results

June 2025

Executive Summary

Ontario beekeepers reported on their winter loss experience in the spring of 2025 with responses from 642 beekeepers who put 27,465 colonies into winter in the fall of 2024. The overall average winter loss was 33.5% and median was 36%. Beekeepers were asked about in-season losses for the first time this year and reported an average in-season loss of 8.8% for a total loss of 39.3% over the previous year of beekeeping.

The top three reasons for losses cited by beekeepers were that colonies were too weak going into winter, the fluctuations in weather during the winter, and problems with the queen. Among beekeepers who felt that they had low winter losses the top three reasons they felt their losses were low were effective varroa mite control strategies (64.7%), good sized clusters going into winter (49.8%), and effective fall feeding (49.6%).

The three regions that had the highest winter losses in 2024 reported dramatically lower winter losses in 2025. In particular, the 26 beekeepers who keep bees in multiple regions had the highest winter loss average in 2024 and reported the second lowest winter loss in 2025. This group tends to be made up of some of Ontario's largest and most experienced beekeepers. This variability in the winter loss experience among Ontario's largest and most experienced beekeepers indicates that high average winter losses is not a simple problem to fix.

Many beekeepers have different ideas about what is causing Ontario's persistently higher winter losses. The OBA continues to advocate for investments in research and extension work to better understand how different stressors are affecting our bees and how beekeepers can best adapt to these challenges. We are fortunate, in Ontario, to have a strong ecosystem for beekeeping research at several Ontario Universities as well as relevant research occurring in neighbouring provinces. Combined with the OBA's Technology Transfer Program (TTP) we have mechanisms in place to get new research evidence into practice. The missing ingredient at this point is longer term focussed and sustained investment across the continuum from research to practice.

Methods

The OBA's winter loss survey was conducted from May 2-21, 2025. The survey was made available to OBA members and non-members through Google Forms. The survey was distributed through the OBA's email list of 4,500 contacts, placed on the website as well as being shared on social media. A total of 647 individuals responded to the survey. Two responses were excluded because the beekeepers indicated that their bees were not in Ontario. Two responses were excluded because the beekeepers reported having more viable hives in the spring than they put into winter. They may have reported on packages purchased in the spring but including their results would have generated a misleading winter loss statistic. One response was excluded

because the beekeeper did not report having any hives. After data cleaning the total number of responses available for analysis was 642.

Not all questions were mandatory. Sample sizes in the results section represent the number of beekeepers who responded to a particular question or who met certain criteria for different categories of sub-analyses (i.e. analyses by region or by size of operation).

Average winter loss results were calculated by dividing the total number of hives that were not viable at the time of the survey by the total number of hives that were put into winter. This produces an average that is weighted by hive numbers rather than an average calculated by beekeeper which would give equal weight to each beekeeper regardless of the number of hives they manage. The median is the middle number in a sorted list and therefore represents the mid-point of the data where approximately 50% of the data falls above and below the median value. Percentage responses were calculated by dividing the number of beekeepers citing a particular response by the total number of Ontario beekeepers who answered that question.

Results

Of the 642 Ontario beekeepers included in the winter loss data, these beekeepers reported putting 27,465 colonies into winter. At the time they completed the survey, 18,268 of these colonies were viable representing an average winter loss of 33.5% (Figure 1). The median winter loss was 36.0%. This year 413 beekeepers (64.3%) reported winter losses over 20% compared with 59.8% of beekeepers in 2024.

Beekeepers with less than 50 hives reported an average winter loss of 40.5% (median 40.0%) while beekeepers with at least 50 hives reported an average winter loss of 31.8% (median 29.9%). For the first time this year respondents were asked to report on in-season losses prior to winter wrapping in the fall of 2024. The average in-season loss was 8.8% (Figure 2). This includes an 11.3% in-season loss among beekeepers with less than 50 hives and an 8.2% in-season loss among beekeepers with at least 50 hives.

Combining in-season and overwinter losses, beekeepers in Ontario lost an average of 39.3% of their hives over the last year. Beekeepers with less than 50 hives lost an average of 47.2% of their hives while beekeepers with at least 50 hives lost an average of 37.4% of their hives (Figure 3).

As usual these averages represent considerable variation across the Ontario beekeeping sector with some beekeepers experiencing extremely high losses and others who did not report any hive losses. These comments from beekeepers help to illustrate the range of experiences that beekeepers faced:

Likely our best overwintering in decades - commercial beekeeper with 10% winter loss.

This is the first time in 20 years of keeping bees that the majority of the dead colonies I have no answer or indications of what caused the losses - commercial beekeeper with a 79% winter loss

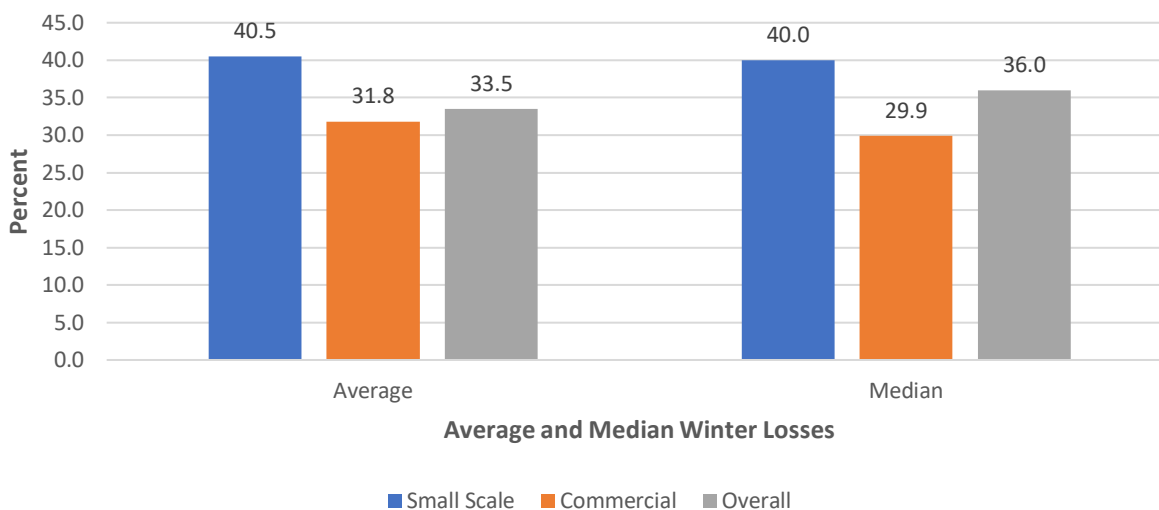


Figure 1: Average and median winter losses reported by small scale (<50 hives), commercial (>50 hives) and all Ontario beekeepers.

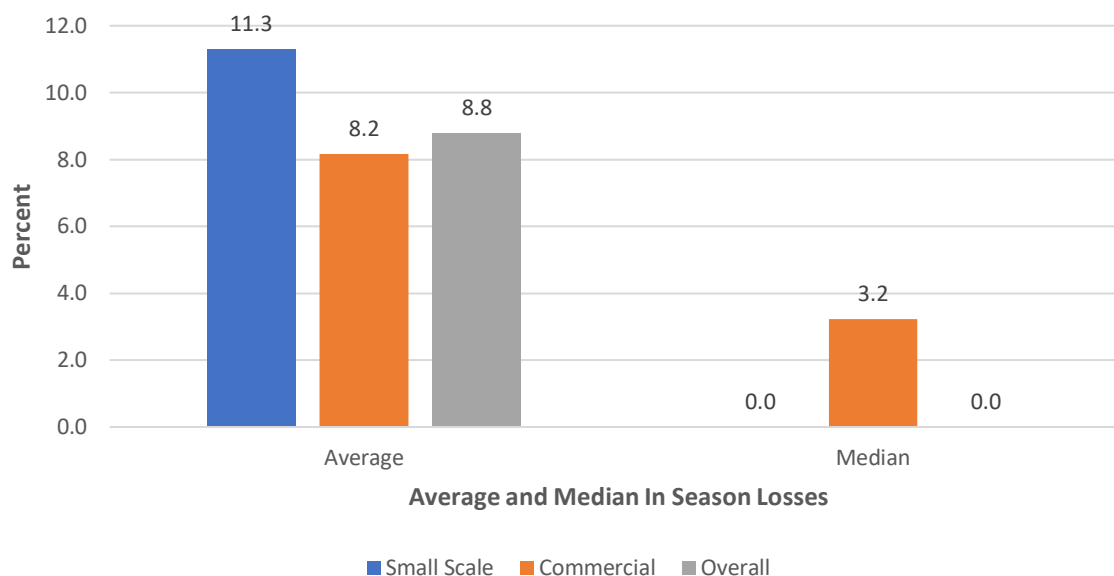


Figure 2: Average and median in-season losses reported by small scale (<50 hives), commercial (>50 hives) and all Ontario beekeepers.

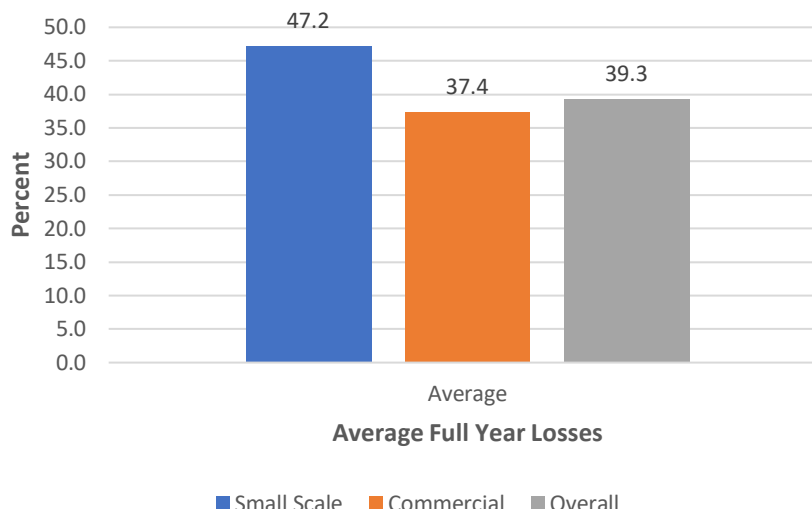


Figure 3: Average full year losses reported by small scale (<50 hives), commercial (>50 hives) and all Ontario beekeepers.

Average regional winter losses were lower in all but two regions in 2025 compared to 2024 (Figure 4). After two consecutive years with the lowest winter loss rates in the province, the region made up of beekeepers in Huron, Perth, Grey, Bruce, and Wellington Counties reported the second highest average losses in 2025 at 39.5% behind only the Central Ontario region at 40.9%. Beekeepers in Central Ontario had reported the third lowest average regional loss in the 2024 winter loss survey.

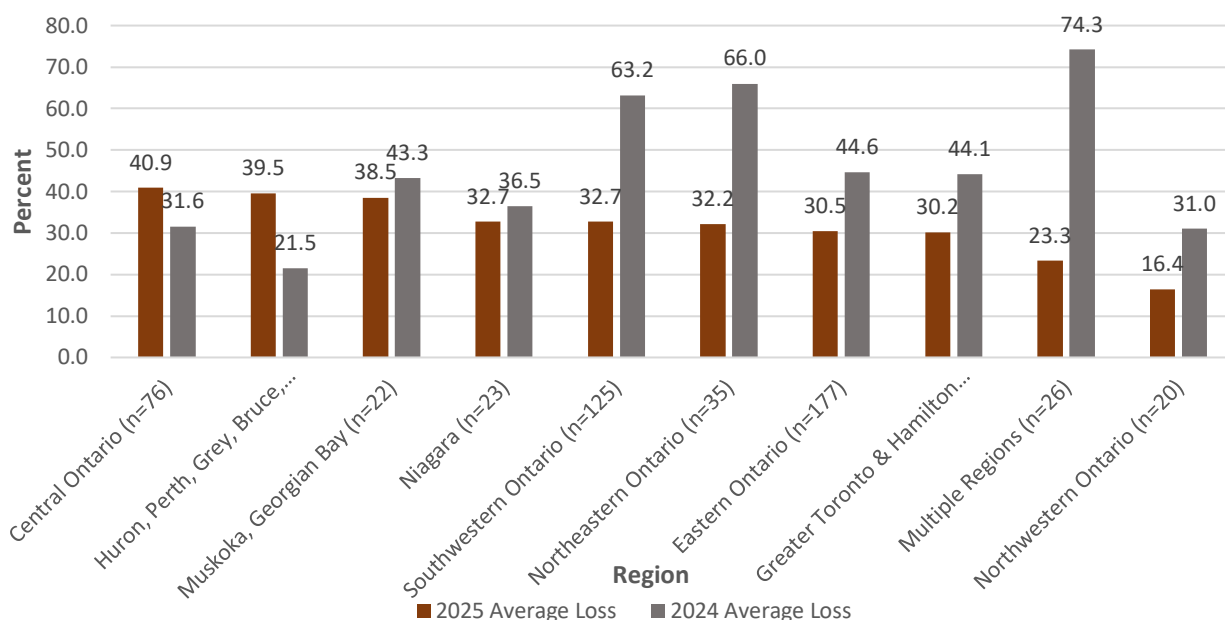


Figure 4: Average winter losses reported in 2025 and 2024 by region of the province (n=642)

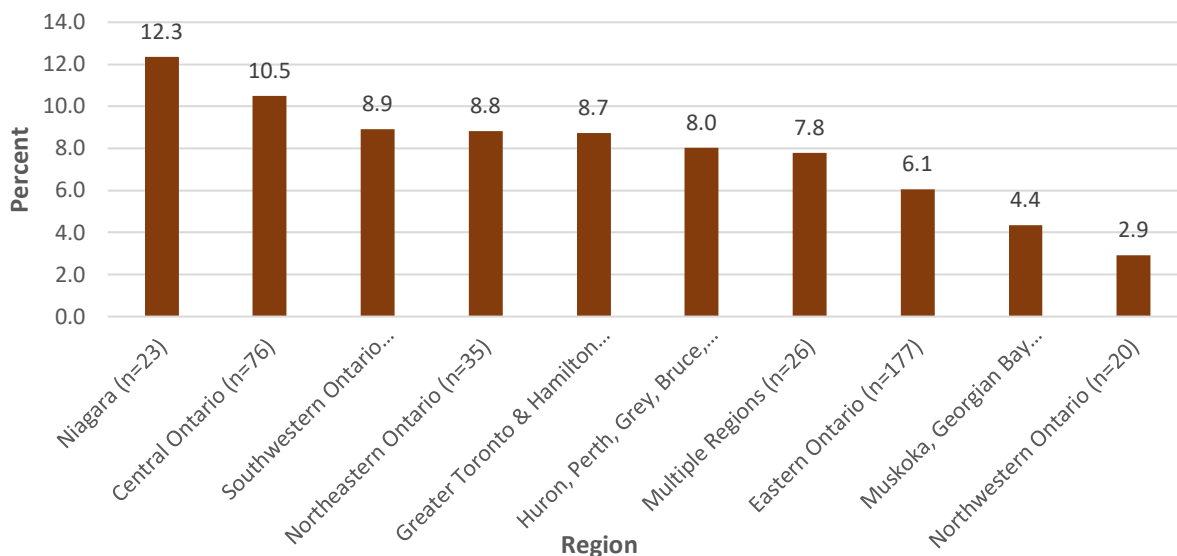


Figure 5: Average in-season losses reported in by region of the province (n=642)

There were 1012 responses from 641 beekeepers to the question *Based on your observations and experience, what would you say caused your overwinter losses?* Beekeepers were allowed to select as many responses as were relevant (Figure 6). The top three causes cited by beekeepers were that colonies were too small/weak going into winter (29.8%), the fluctuations in weather during the winter (27.3%), and there was a problem with the queen (28.4%). Only 7 respondents (1.1%) felt that small hive beetle had caused their winter losses. On average the beekeepers reporting small hive beetle as a cause of their winter losses reported the highest winter losses at 69.7%.

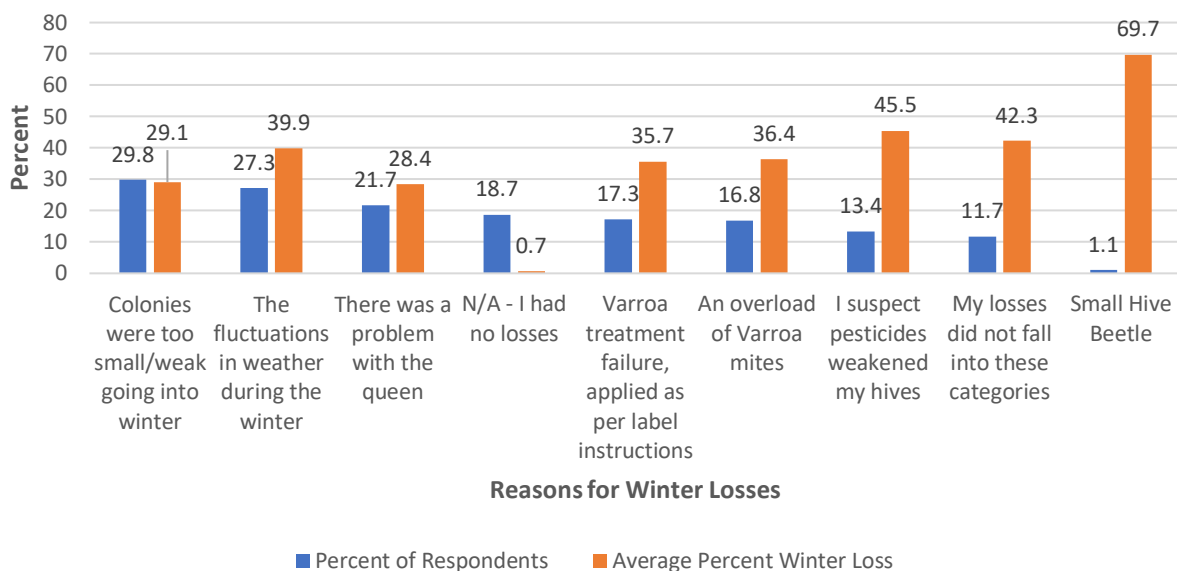


Figure 6: Reported reasons for winter losses and the average percent winter loss reported by beekeepers who cited that reason for losses. Beekeepers were able to provide as many reasons as they felt were relevant.

Among beekeepers who felt that they had low winter losses the top three reasons they felt their losses were low were: effective varroa mite control strategies (64.7%), good sized clusters going into winter (49.8%), and effective fall feeding (49.6%) (figure 7). The lowest average winter losses occurred among beekeepers who felt their losses were low because of using locally adapted selected stock, new and/or young queens, good sized clusters going into winter, and education about pests and diseases. Beekeepers who felt their winter losses were low due to their swarm control strategies had the highest average winter loss of beekeepers who felt their winter losses were low.

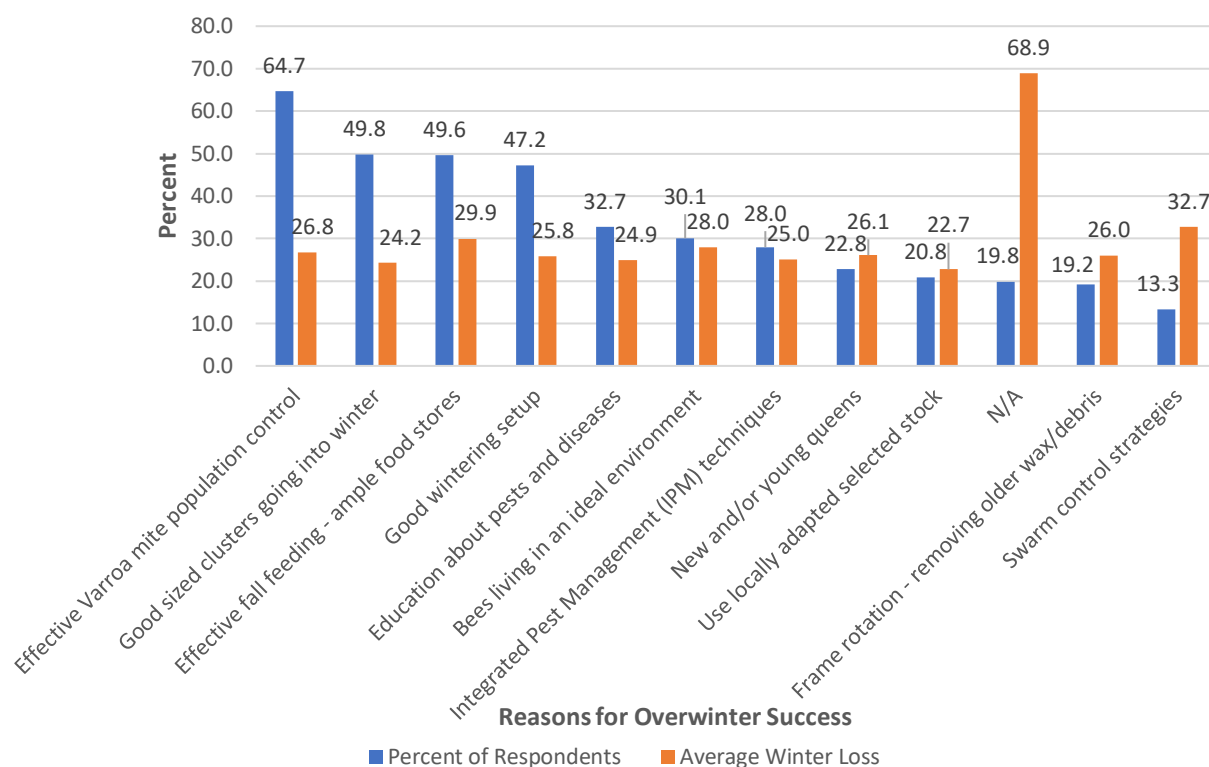


Figure 7: Survey responses to the question: *Based on your observations and experience, what would you say helped you be successful at keeping your losses low?* Beekeepers were allowed to select all the relevant responses. There were 2,447 responses to this question from 615 beekeepers.

Beekeepers were asked *how are your bees doing this year compared to the same time last year?* Responses in 2025 were similar to 2024 with 35% of beekeepers feeling their bees were doing better or much better than the same time in 2024 and 30% of respondents feeling their bees were doing worse or much worse than the same time in 2024 (figure 8).

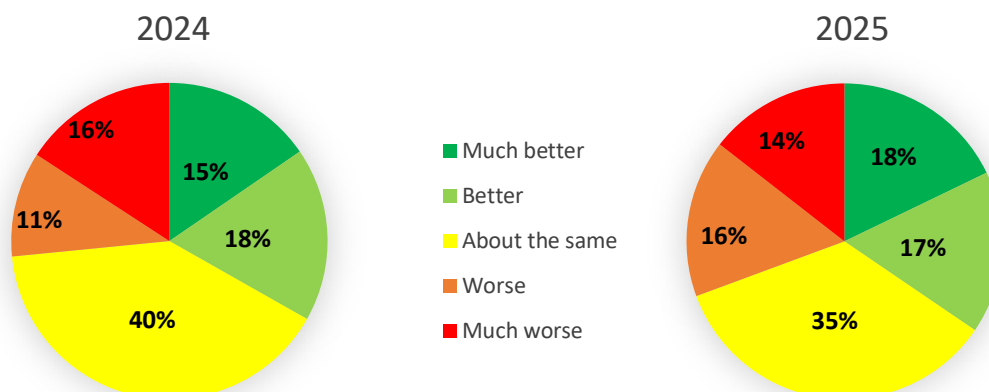


Figure 8: Survey responses from 2024 and 2025 to the question: *How are your bees doing this year compared to the same time last year?* (N=594)

A total of 559 beekeepers responded to the question *which statement best describes you regarding winter losses* (figure 9). Almost a third of beekeepers (32.7%) reported that their bees came through the winter in good shape. The average winter loss for those beekeepers was only 9.7% and they represented 5,107 hives. The average winter loss for the 28.6% of beekeepers who stated that their losses were not unusual was 26.4% and they represented the largest number of hives at 8,197. A further 12.5% of beekeepers representing 3,511 hives and an average winter loss of 60.0% reported that they could not continue beekeeping if their losses remained at 2025 levels. The 21.6% of beekeepers who had one of the worst winters/springs that they can remember reported an average loss of 65.9% on the 3,674 hives they put into winter.

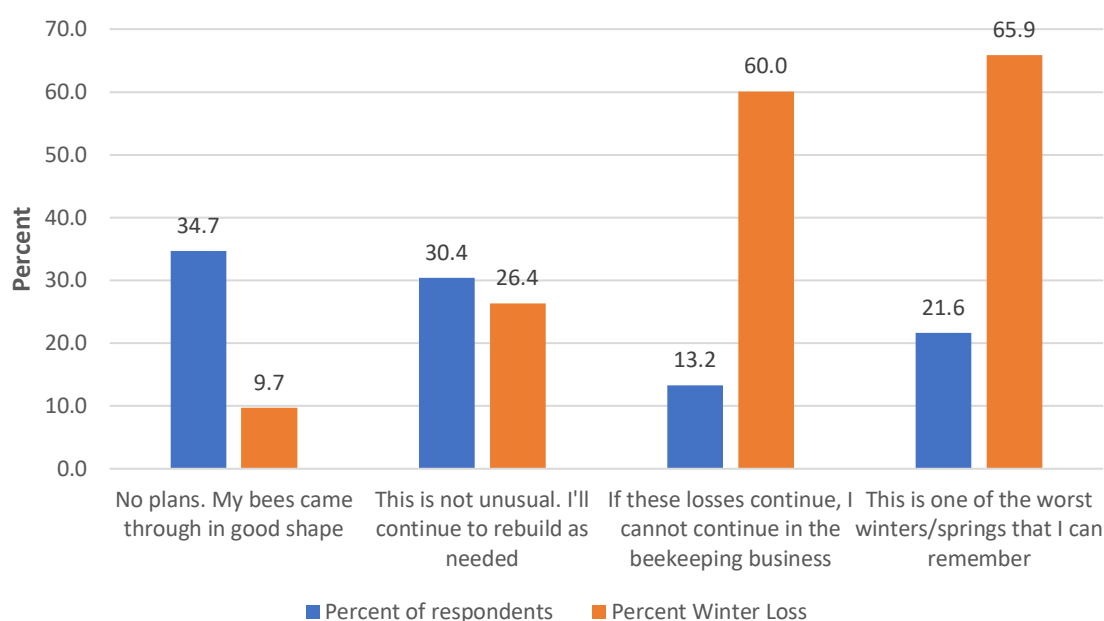


Figure 9: Responses to the question: *Which statement best describes you regarding winter losses?* (n=559)

Discussion and Recommendations

This year's averaged winter loss of 33.5% together with an 8.8% in-season loss for a total loss of 39.3% over the last year simplifies a considerable amount of variability and unpredictability in the beekeeping loss statistics. Beekeepers with low losses in one year can have high losses the next year. This variation makes it difficult for beekeepers to identify predictable best management practices that can deliver consistent low winter losses. The regional analysis of winter loss data tells us that different regions of the province can have very different winter loss experiences from one year to the next. Beekeepers rarely change their geographical base of operations so the regional losses tend to reflect the same population of beekeepers even if the sample of those responding to the survey may change slightly from year to year. The three regions that had the highest winter losses in 2024 reported dramatically lower winter losses in 2025. In particular, the 26 beekeepers who keep bees in multiple regions had the highest winter loss average in 2024 and reported the second lowest winter loss in 2025. This group tends to be made up of some of Ontario's largest and most experienced beekeepers.

Anecdotally, we have heard of beekeepers with very high in-season losses. This has prompted the OBA to begin to track this information so that we do have baseline data in case we have large in-season losses in the future. At this time we do not have historical data that can help us to interpret whether the in-season losses reported this year were higher or lower than usual. The 8.8% in-season losses seems fairly high particularly when it increases the full year average losses to 39.3%. It will be interesting to see if patterns emerge in the in-season losses by region of the province. The range of in-season losses reported from 2.9% in Northwestern Ontario to 12.3% in Niagara is quite large. There are many differences between such diverse regions including the size and business model of beekeeping operations, the density of honey bee colonies, the types and variety of forage, land use practices, pesticide exposure, length of winter/foraging season, as well as pest and disease pressures.

Communicating winter losses is a challenging and delicate process. This year's losses represent a real balancing act. On one hand they are unacceptable and unsustainably high. The averages simplify the complexity of the situation with some operations facing devastating losses leading 12.5% of beekeepers to report that if losses continue at the level they experienced this year they will not be able to continue beekeeping and 20.4% of respondents indicating this was one of their worst winter losses ever. Despite these unsustainably high losses this year's average winter loss of 33.5% is far lower than the devastating 51.6% average winter loss we experienced in 2024. Our 2025 winter losses are also considerably lower than the losses experienced by US beekeepers this past year.

Given this year's losses and how they fit in the context of previous years and other geographical areas our messaging at the provincial level is that we continue to face a long-term sustainability challenge in the beekeeping sector. There is no shortage of theories as to what the root causes of Ontario's persistently high losses are. It is highly likely that different regions of the province and indeed different individual beekeepers are facing somewhat different and unique challenges. It is also highly likely that there is no single stressor that explains the ongoing high losses. Many beekeepers commented on the need for additional mite management options,

other beekeepers have concerns related to decreasing forage availability and variety, while others raise concerns about chronic pesticide exposures.

Unfortunately, at this time, we do not have the research and evidence we need to sift through these theories and develop the best management practices we need to meet our current challenges. The OBA continues to advocate for the implementation of the recommendations in the *Report by the Industry-Government Honey Bee Sustainability Working Group on Actions to Improve the Sustainability and Resiliency of the Canadian Beekeeping Sector*. In particular, further investments are needed in research and extension work to better understand how different stressors are affecting our bees and how beekeepers can best adapt to these challenges. We are fortunate, in Ontario, to have a strong ecosystem for beekeeping research at several Ontario Universities as well as relevant research occurring in neighbouring provinces. Combined with the OBA's Technology Transfer Program we have mechanisms in place to get new research evidence into practice. The missing ingredient at this point is longer term focussed and sustained investment across the continuum from research to practice.