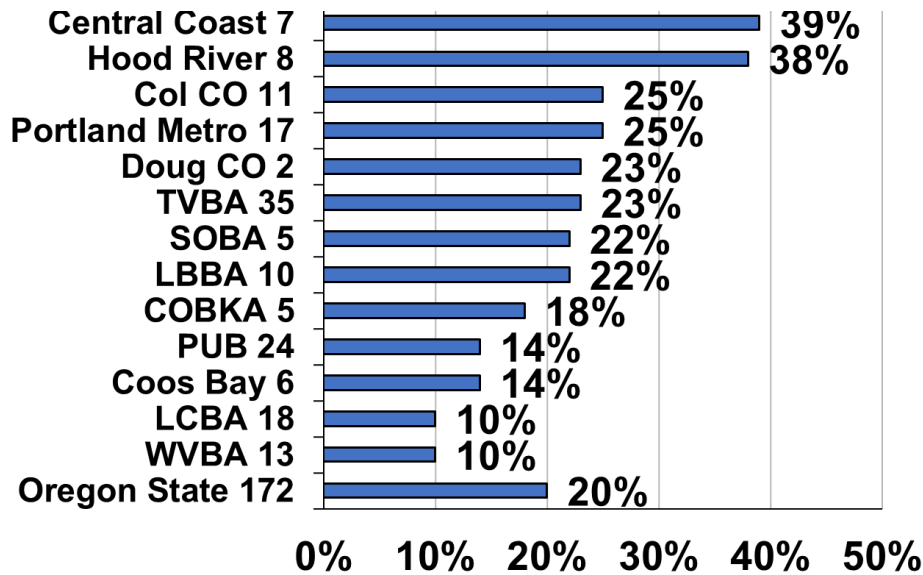


2023-2024 LBBA Winter Loss Report by Dewey M. Caron

Linn Benton Beekeepers were encouraged to complete a web-based survey document in a continuing effort to define overwintering losses/successes of backyard beekeepers in Oregon and Washington. This was the 15th year of such survey activity. I received 171 responses from OR backyarders, keeping anywhere from 1 to 41 colonies; LBBA members sent in 10 surveys, 8 fewer than last year and ½ the average response of previous 9 years, reporting on 46 fall colonies.



Overwintering losses of LCBA respondents = 22 %, 8 percentage points lower than last year and two percentage points higher than statewide average. Losses were 16 percentage points lower than the previous 9 winters.

Percent losses were determined by hive types were 33% Langstroth 8-frame (6 fall colonies) and 19% for Langstroth 10-frame hives (36 fall colonies). The single nuc did not survive but the three top bar hives all survived. Nineteen percent of previously overwintered colonies did not survive, zero colonies originated from nucs all survived (zero loss), 11% of colonies originating as swarms died and 33% of splits died.

Figure 2

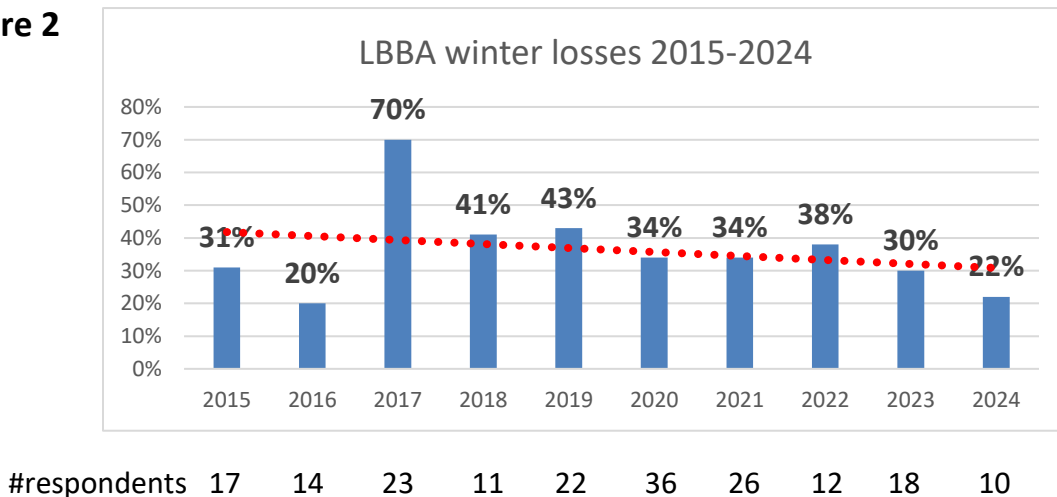


Figure 2 shows loss level of LBBA the last 10 years. The red dotted line is the trend level. It is obviously going in right direction – down. Number of LBBA member respondents is shown below the graph. Last years lowest level of loss was also lowest level of respondent numbers of last 10 years. Loss level of LBBA members is the same as the average Oregon backyard beekeeper loss level (38%) of the past ten years nearly double what commercial beekeepers experience (21%).

With small number of respondents the LCBA respondents had a strange distribution of colony ownership. Statewide 51% of survey respondents had 1 to 3 colonies. For LCBA, none had a single colony, four (25%) had 2 or 3 colonies (22% loss), six individuals had 4 6 or 8 colonies (30% loss) and 2 had 10+ colonies (48%). Fifteen was highest number. Statewide as colony numbers increased, the loss rate decreased, opposite of the 12 OBBA members.

Four individuals had no loss (16 colonies total). Four individuals lost one colony and two lost three colonies. Heaviest loss percentage-wise was 60%. Highest colony number was 8. Two individuals lost 33% of colonies (3 fall colonies total), the five individuals with 4 to 6 colonies (25 total colonies) had 25% loss and the two individuals with 7 or 8 colonies had 20% loss. This relationship of lower percentage loss with increasing colony numbers has been consistent over the past 10 years. The three LBBA members with 2 or 3 years beekeeping experience (11 fall colonies) had a 27% winter loss, three individuals had 4 years experience (15 colonies) also had a 27% loss, the one individual with 8 colonies had zero loss and the three individuals with 10+ years experience (15 colonies total) had a 19% loss. Greatest number of years was 16. This relationship of lower losses with increasing years experience has also been the pattern the last 10 years.

No members had 2 apiaries and two moved colonies in year, one to meadowfoam the other to lavender.

Reasons for Loss/Acceptable loss

The survey asked individuals that had colony loss to estimate what the likely reason(s) might have been, Multiple responses were permitted. There were 13 listings. Queen issues were the most popular choice (5 individuals), varroa mites and weak in fall had three selections each and don't know and starvation had single selections. Survey individuals are asked to indicate what might be an acceptable loss level. Two individuals listed none, one 10% and three 20% (the median (middle) selection) . Four said 25%.

Why do colonies die? There is no straightforward way to verify reason(s) for colony loss. Colonies in the same apiary may die for distinct reasons. Examination of dead colonies is, at best confusing, and, although some options may be ruled out, we are often left with two or more possible reasons for losses. There is a good deal of variance in opinion as to what might be an acceptable loss level. We are dealing with living animals which are constantly exposed to many different challenges, both in the natural environment and the beekeeper's apiary. LBBA individual choices varied from zero to 25%. Statewide acceptable loss level has crept upwards over time.

Major factors in colony loss are thought to be mites and their enhancement of viruses especially DWV (deformed wing virus), plus declining nutritional adequacy/forage and diseases. Pesticide in the agricultural environment weakens colonies. Yellow jacket predation is a constant challenge to weaker fall colonies, Management, especially learning proper bee care in the first years of beekeeping, remains a factor in losses. What effects our changing environment such as global warming, contrails, electromagnetic forces, including human disruption of it, human alteration to the bee's natural environment and other factors, play in colony losses are not at all clear. **There is no simple answer to explain the levels of current losses nor is it possible to demonstrate that they are necessarily excessive for all the issues facing honey bees in the current environment.**

Management Selections and Losses

The survey inquired about feeding practices, wintering preparations, sanitation measures utilized, screen bottom board usage, queens, mite monitoring and both non-chemical mite control techniques (such as screen bottom board use, drone brood removal efforts, etc.) and chemical mite controls utilized. Individuals could check none or more than one response; many LBBA and OR beekeepers often do not do just one thing/management to their colony (ies) to control mites to improve overwintering success.

With respondent number low, check out the 23-24 statewide management details or details from last years report.

Closing Comments

This survey is designed to 'ground truth' the larger, national Bee Informed loss survey. Some similar information is additionally available on the BeelInformed website www.beeinformed.org and individuals are encouraged to examine that data base as well. Recall that the BeelInformed survey is measuring the larger scale OR beekeepers not the backyarders (figure 6 of OR state loss report.) Reports for individual bee groups are customized and posted to the PNW website.

I intend to continue to refine this instrument each season and hope you will join in response next April. If you would like a reminder when survey is open please email us at info@pnwhoneybeesurvey.com with "REMINDER" in the subject line. **Thank You to all who participated.** If you find any of this information of value please consider adding your voice to the survey in a subsequent season.

Dewey Caron May 2023